IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

CAL FISHKIN, et al.,	:	CIVIL ACTION
v.	:	
SUSQUEHANNA PARTNERS, G.P., et al.,	:	
v.	:	
TABFG, LLC, et al.,	:	NO. 03-3766

MEMORANDUM AND ORDER

McLaughlin, J. June 17, 2008

This case arises from a dispute between a securities trading firm, Susquehanna International Group, LLP ("SIG"), and two of its former employees, Cal Fishkin and Igor Chernomzav.

Fishkin and Chernomzav left SIG and formed a joint venture called TABFG, LLC ("TABFG") in partnership with another company, NT Prop. Trading, LLC ("NT Prop").[1] Fishkin and Chernomzav began this action by seeking a declaratory judgment to declare invalid the covenants not to compete that were part of their employment contracts with SIG. SIG, in response, filed a counterclaim against Fishkin and Chernomzav for breach of the covenants and for tortious interference, conspiracy, misappropriation, and conversion. These latter claims were based

[1] Fishkin, Chernomzav, and TABFG are represented by the same counsel and will be referred to where appropriate as the "Fishkin parties."

on the allegation that Fishkin and Chernomzav had used SIG's proprietary trading formula, called either the "Dow Fair Value formula" or "SIG's Dow Fair Value formula," in their competing joint venture. SIG also impleaded TABFG and NT Prop as third-party defendants to all claims except those for breach of contract.

The Court held a bench trial from April 23 to April 26, 2007, on SIG's counterclaims against Fishkin, Chernomzav, TABFG, and NT Prop. This Memorandum and Order constitutes the judgment of the Court.

The Court finds for the counterclaim defendants on SIG's claims for misappropriation of trade secrets, conversion, and civil conspiracy because the Court finds that SIG has failed to meet its burden of proving the existence of a protected trade secret. The Court finds in favor of defendants Fishkin, Chernomzav, and TABFG, but against defendant NT Prop, on SIG's claims for tortious interference with contract. Because SIG cannot establish its actual damages from NT Prop's tortious interference, the Court awards SIG only nominal damages on this claim. The Court declines to award punitive damages on this claim.

I. Procedural History

This suit began with a complaint filed in the Court of Common Pleas of Montgomery County, Pennsylvania by Fishkin, Chernomzav, and a third employee of SIG, Francis Wisniewski, against SIG.[2] The suit sought declaratory and injunctive relief to invalidate restrictive covenants not to compete in Fishkin, Chernomzav, and Wisniewski's employment contracts with SIG. The suit also alleged that the plaintiffs had been fraudulently induced to enter those contracts.

SIG answered the complaint by filing a counterclaim against Fishkin and Chernomzav, but not Wisniewski, for breach of their employment contracts, misappropriation of trade secrets, conversion, tortious interference with contract, and civil conspiracy. SIG also brought claims for misappropriation of trade secrets, conversion, tortious interference with contract, and civil conspiracy against third-party defendants TABFG, NT Prop, and Richard Pfeil, who was one of the principals of NT Prop.

NT Prop and Richard Pfeil then removed the case to this Court. SIG filed a motion for a preliminary injunction, seeking to enjoin Fishkin and Chernomzav from competing with SIG in

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[2] The complaint named as defendants both Susquehanna International Group, LLP and Susquehanna Partners, G.P. As stated in this Court's prior Memorandum and Order of May 31, 2006, Susquehanna International Group, LLP and Susquehanna Partners, G.P. are the same entity. Id. at 1 n.2.

violation of the restrictive covenants in their employment agreements. After a hearing, the Honorable James McGirr Kelly issued a Memorandum and Order on September 16, 2003, granting SIG's request for preliminary relief and enjoining Fishkin and Chernomzav from violating the covenants not to compete. The case was subsequently transferred to this Judge on March 16, 2005.

In a Memorandum and Order dated May 2, 2005, the Court granted defendant Richard Pfeil's motion to dismiss all claims against him. In a subsequent Memorandum and Order dated May 31, 2006, the Court granted SIG partial summary judgment, making permanent the previously-granted preliminary injunctive relief enforcing the restrictive covenants against Fishkin and Chernomzav and dismissing Fishkin and Chernomzav's claims for fraudulent inducement against SIG. On February 12, 2007, the Court issued a Memorandum and Order denying the parties' cross-motions for summary judgment on SIG's claims. On March 19, 2007, the Court denied a motion in limine by counter-claim defendants Fishkin, Chernomzav and TABFG to limit the damages available to SIG on its counterclaim for misappropriation of trade secrets.

The parties having waived their rights to a jury trial,[3] the Court held a bench trial from April 23 to April 26, 2007, on the remaining claims in this case. The claims tried to the Court were SIG's counterclaims for:

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[3] 4/23/07 Trial Tr. at 4.

1) Misappropriation of Trade Secrets against Fishkin, Chernomzav, TABFG, and NT Prop (Count II of the Amended Counterclaim);

2) Conversion against Fishkin, Chernomzav, TABFG, and NT Prop (Count III of the Amended Counterclaim);

3) Tortious Interference with Contract against Fishkin, Chernomzav, TABFG, and NT Prop (Count IV of the Amended Counterclaim); and

4) Civil Conspiracy against Fishkin, Chernomzav, TABFG, and NT Prop (Count V of the Amended Counterclaim).[4]

SIG seeks punitive as well as compensatory damages for these claims.

[4] Although SIG's breach of contract claim against Fishkin and Chernomzav (Count I of the Amended Counterclaim) is also before the Court, SIG does not include a proposed finding on that claim in its Proposed Findings of Fact and Conclusions of Law, and the Court therefore will not address it. The Court previously ruled that SIG could recover only nominal damages on this claim because it could not establish the profits it lost as a result of Fishkin and Chernomzav's breach. Memorandum and Order of February 12, 2007.

II. Findings of Fact[5]

A. General Background

(1) Futures Contracts

1. A future is a type of derivative. A derivative is a security whose value is based upon, or derived from, another underlying security or other asset. A future is a contract to buy or sell a particular commodity at a specific price at a specific time in the future. The commodity at issue may be an agricultural product, like wheat or orange juice, or it may be a basket of stocks. The date a future comes due is called its expiration date. 4/24/07 p.m. Tr. at 17-18.

2. The relevant futures in this case are futures in the Dow Jones Industrial Average (referred to as "Dow Futures") and in the Standard & Poor's ("S&P's") 500 Index (referred to as "S&P Futures" or "SPU" or "SPU Futures"). These futures are, respectively, contracts to buy or sell the underlying stocks in the Dow Jones Industrial Average or the S&P 500 Index at a specific price on a specific expiration date. 4/24/07 p.m. Tr. at 17-19.

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[5] During the bench trial in this matter, the Court reserved rulings on the parties' objections to deposition designations. To the extent that the Court relies in its findings of fact on deposition designations to which there are unresolved objections, the Court has ruled upon those objections below. Any objections to deposition designations that the Court does not otherwise specifically address below are denied as moot because the testimony they concern did not form a basis for the Court's findings.

3. Because Dow Futures and S&P Futures involve baskets of stocks, rather than physical commodities, no actual exchange takes place on the expiration date. Instead, the expiration date for index futures like these is a clearing transaction in which the exchange fixes a price to settle all outstanding contracts and profit and loss are transferred. 4/24/07 p.m. Tr. at 41-43.

4. Futures contracts are not valued in dollars, but rather in points. The transactions at issue in this case involved two different types of Dow Futures and two different types of S&P Futures, each with a different point valuation. The trading in Dow Futures involved trades in both "Dow Big" and "Dow Mini," and the trades in S&P Futures involved trades in both "SPU Big" and "SPU Mini." A point in a "Dow Big" contract was worth $10 and a point in a "Dow Mini" contract was worth $5. A point in a "SPU Big" contract was worth $250 and a point in a "SPU Mini" contract was worth $50. For purposes of comparing trades in Dow Futures to trades in S&P Futures, trades in Dow Minis can be converted into their equivalent in Dow Bigs by dividing by two, and trades in SPU Bigs can be converted into SPU Minis by multiplying by five. 4/24/07 a.m. Tr. at 13; 4/25/07 p.m. Tr. at 12.

(2) Trading in Futures

5. Traders like SIG and TABFG seek to make money by profiting from mispricing in the value of a security, a difference in the current price for a security and the price at which the trader believes it should be trading. Traders can make money whether a security is underpriced or overpriced. If a trader believes a security is underpriced, it can buy the security and wait for the price to rise before selling. This is referred to as taking a "long" position or "going long." If a trader believes a security is overpriced, it can sell that security and wait for the price to fall before buying it back. This is referred to as a "short" position or "selling short." 4/24/07 p.m. Tr. at 20-21, 23-24.

6. "Edge" is a term of art that refers to the difference between the price at which a securities contract was purchased and the price that a trader thinks it is worth. "Edge" can be positive (profit) or negative (loss). Traders look for positive edge on every trade. 4/24/07 a.m. Tr. at 90; 4/24/07 p.m. Tr. at 21; 4/25/07 a.m. Tr. at 35-36.

7. Futures are traded on exchanges. These may be physical locations, like the Chicago Board of Trade, where traders buy and sell in person, or they may be electronic, where traders buy and sell over the computer.

(3) The Dow Pit at the Chicago Board of Trade

8. The trading at issue in this case took place at the Chicago Board of Trade in the Dow Futures "pit." The pit is octagon-shaped and about the size of a basketball court. Traders and brokers stand in the pit, about a foot or a foot and half apart, to trade Dow Futures. During the relevant time, from 100 to 150 people traded in the Dow Futures pit each trading day. 4/24/07 a.m. Tr. at 69.

9. Trading in the Dow Futures pit is done by "open outcry," which means that bidding and offering are done orally. As a broker comes into the pit with an order to buy or sell Dow Futures, the brokers in the pit will call out prices. The trader who responds first with the best price gets the contract. The competition among traders is not only for the best price, but for the fastest best price. 4/24/07 a.m. Tr. at 89; 4/24/07 p.m. Tr. at 55-56.

10. Next to the Dow Futures pit, there is an electronic wall board. This wall board shows financial information that may be useful to traders in the Dow Futures pit and other neighboring pits. The financial information on the wall board included the current cash value of the underlying stocks in the S&P 500 Index (also called the "SPU Cash") and the Dow Jones Industrial Average (also called the "Dow Cash"), as well as the ratio of the cash values of the two indexes (the

ratio of the Dow Cash to the SPU Cash). The wall board also showed the prices of the individual stocks in the Dow. 4/24/07 a.m. Tr. at 69-70; 4/24/07 p.m. Tr. at 6.

11. Of the approximately 100 to 150 people who traded Dow Futures in the pit at the relevant time, approximately 15 to 30 were brokers who executed trades on behalf of customers, rather than for their own account. Of the remainder who traded on their own account, the largest number, approximately 50 to 100 traders were "scalpers," who essentially sought to make money by profiting in the daily fluctuation in the price of the Dow Future by "buying low and selling high." Another 40 traders, including those working for SIG, used various strategies to trade Dow Futures on their own accounts. 4/24/07 a.m. Tr. at 62-63; 4/24/07 p.m. Tr. at 53.

12. Some of the approximately 40 traders who used various strategies to trade on their own accounts were index arbitragers, who seek to make money from any mispricing between the value of the Dow Future and the value of the underlying stocks in the Dow. Others traded on technical analysis or charts, using market and financial history to predict trades. Others traded on order flow or momentum, seeking to profit by predicting when a large volume of orders will be made. A small number of 8 to 10 traders, discussed more fully below, traded

using a Dow Fair Value strategy similar to, or identical to, that used by SIG. 4/24/07 a.m. Tr. at 62-63; 4/24/07 p.m. Tr. at 53.

(4) Hedging Trades

13. A hedging trade is a transaction taken to minimize risk. Hedging reduces risk by pairing transactions in two different securities whose prices tend to rise or fall together. For example, assuming the prices of Product A and Product B tend to move in the same direction, if one has bought Product A, hoping it will rise in price, one can hedge that position by selling Product B, so that if, contrary to expectation, the price of Product A falls, then (because Product A and B move in the same direction) the price of Product B should also fall and one can profit from the hedging sale one made in Product B. Thus, when a trade is hedged, a trader has captured whatever "edge" or expected profit he had in his original transaction and has insulated himself from the possibility of losing money if the market as a whole moves unexpectedly. 4/24/07 p.m. Tr. at 21-24; 4/25/07 a.m. Tr. at 68-69.

14. Trades in Dow Futures can be hedged with a variety of other products that tend to trade in the same direction. These include other S&P Futures, other Dow options, and baskets of the underlying stocks in the Dow Index. 4/24/07 a.m. Tr. at 92.

(5) Valuing Futures - Banking Fair Value

15. The value of a index future, like the Dow Futures and S&P Futures, is measured by a concept called "banking fair value." Banking fair value represents the expected value of an index future as a function of the underlying cash value of the index on which it is based. 4/23/07 Tr. at 79.

16. Because an index future represents a contract to purchase the stocks that make up the index, the calculation of its banking fair value begins with the cash value of the stocks in the underlying index. For the Dow Future, this is the value of the stocks in the Dow Jones Industrial Average; for the S&P Future, it is the value in the stocks in the S&P 500 Index. 4/24/07 p.m. Tr. at 58-59.

17. The cash value of the index is then adjusted by two factors, one reflecting the value of the transaction costs saved by buying an index future rather than the underlying stocks, the other reflecting the value of the dividends that would have been received if one had bought the stocks rather than the index. 4/24/07 p.m. Tr. at 60.

18. Because buying an index future requires a smaller outlay of money than buying all the underlying individual stocks that make up an index, an investor saves money by buying a future. This means that an investor would be willing to spend more for an index future than for the stocks underlying that

future, and that an index future is therefore worth more than the underlying stocks in the index. This extra value to a future is measured by the interest an investor would receive on the cash saved by buying an index future over buying the underlying stocks. The banking fair value of an index therefore adjusts the index's cash value by adding the value of this interest. 4/24/07 p.m. Tr. at 59-60.

19. Owning an index future also differs from owning the underlying stocks in an index because the owner of an index is not entitled to dividends. This is a cost to buying a future as compared to buying the underlying stocks. The banking fair value of an index therefore adjusts the underlying cash value of the index by subtracting the value of the dividends that will not be received over the duration of the future. 4/24/07 p.m. Tr. at 60

20. Together the adjustment to an index future's underlying cash value for interest and dividends is known by the term "Exchange for Physical." The name refers to the exchange of an index future for the "physical" underlying stocks in the index. The Exchange for Physical is therefore a number, either positive or negative, representing the interest saved minus the dividends foregone from owning an index future. 4/24/07 p.m. Tr. at 63.

21. The definition of the banking fair value for the Dow Futures and for the S&P Futures can be written algebraically as:

Figure 1

Dow BFV [Banking Fair Value] =
Dow Cash + Dow EFP [Exchange for Physical]

SPU BFV [Banking Fair Value] =
SPU Cash + SPU EFP [Exchange for Physical]

4/24/07 p.m. Tr. at 63-64.

22. The concept of banking fair value and the formula describing it and the concept of "Exchange for Physical" are widely-understood and are not claimed to be trade secrets. 4/24/07 p.m. Tr. at 85, 100; SIG's Proposed Findings of Fact and Conclusions of Law (hereinafter "SIG's Proposed Findings") at ¶ 12.

23. Because markets are not perfectly efficient, the price of a future may deviate from its banking fair value. This deviation is referred to as a future being "over." The difference between the price of the Dow Future and its banking fair value is referred to as "Dow Over." The difference between the price of the S&P Future and its banking fair value is referred to as "SPU Over." 4/23/07 Tr. at 79; 4/24/07 p.m. Tr. at 58-59.

24. The definition of the SPU Over can be represented algebraically as

Figure 2
SPU Over = SPU Future - SPU BFV [Banking Fair Value]

In this formula, "SPU Future" refers to the price at which S&P Futures are trading. This formula can be rewritten by substituting the value for S&P BFV given in Figure 1:

Figure 3
SPU Over = SPU Future - (SPU Cash + SPU EFP)

4/24/07 p.m. Tr. at 66-67.

25. SIG does not claim the concept of "Dow Over" or "SPU Over," or the formulas describing them, to be trade secrets. 4/25/07 a.m. Tr. at 14-16.

B. SIG's Dow Fair Value Formula

26. SIG claims it has a trade secret in a concept for pricing Dow Futures and in a formula that expresses this concept in algebraic terms. The concept and formula have been referred to in this case as "Dow Fair Value." 4/23/07 Tr. at 12-13.

27. The Dow Fair Value concept is based on the relationship between the Dow Futures and the S&P Futures.

Because all of the stocks in the Dow Jones Industrial Average are in the S&P 500 Index, the price of the Dow Futures and the price of the S&P Futures tend to move in the same direction. During the time period at issue here, the market in S&P Futures was much more liquid than the Dow Futures, meaning that the S&P Futures traded more frequently than the Dow Futures. Because of this difference in liquidity, any movement in the price of these two futures would tend to appear first in the S&P Futures, with a delay of a few seconds or more before a corresponding change in the price of the Dow Futures. This momentary mispricing created an opportunity for a trader to profit. 4/24/07 p.m. Tr. at 47-49, 62.

28. The Dow Fair Value concept is that the percentage by which the Dow Futures are trading over or under their banking fair value should be the same as the percentage by which the S&P Futures are trading over or under their banking fair value. In other words, if the S&P Futures are trading 1% higher than their banking fair value, then one would expect the Dow Futures also to be trading at 1% higher than their banking fair value. 4/23/07 Tr. at 79; 4/25/07 a.m. Tr. at 6-7.

29. This concept can be represented by the following formula:

Figure 4

$$\frac{\text{Dow Over}}{\text{Dow Cash}} = \frac{\text{SPU Over}}{\text{SPU Cash}}$$

As in the other formulas above, Dow Cash and SPU Cash refer to the cash value of the underlying stocks in, respectively, the Dow Jones Industrial Average and S&P 500 Index. The Dow Over and the SPU Over are the amount by which the Dow Futures and the S&P Futures, respectively, are trading over their Banking Fair Value. 4/24/07 p.m. Tr. at 58.

30. Because of the greater liquidity in the S&P Futures, a change in the value of the SPU Over should occur before the corresponding change in the Dow Over. For this reason the Dow Fair Value formula derives a value for Dow Over based on the value of SPU Over. 4/24/07 p.m. Tr. at 50-52.

31. The formula representing the central concept of the Dow Fair Value formula, set out in Figure 4, can be algebraically rewritten to isolate the value for Dow Over by multiplying both sides of the equation by Dow Cash:

Figure 5

$$\text{Dow Over} = \text{Dow Cash} * \frac{\text{SPU Over}}{\text{SPU Cash}}$$

4/24/07 p.m. Tr. at 65-66.

32. The formula for Dow Over in Figure 5 can also be algebraically re-written as:

Figure 6

$$\text{Dow Over} = \text{SPU Over} * \frac{\text{Dow Cash}}{\text{SPU Cash}}$$

This expresses the concept that the Dow Over equals the SPU Over, multiplied by the ratio between the cash values of the S&P 500 Index and the Dow Jones Industrial Index. 4/25/07 a.m. Tr. at 16.

33. Having used the central concept of the Dow Fair Value formula, set out in Figure 4 at ¶ 29, to isolate a value for Dow Over that is a function of the SPU Over, one can then use that value to write a formula for the fair value of the Dow Futures. 4/24/07 p.m. Tr. at 69-70.

34. The fair value at which the Dow Futures should be trading is the Dow Futures' banking fair value plus a value for the Dow Over. This can be written as:

Figure 7

Dow Fair Value = Dow Over + Dow BFV [Banking Fair Value]

Substituting the value for the Dow banking fair value given in Figure 1, at ¶ 21 above, yields the formula:

Figure 8

Dow Fair Value = Dow Over + (Dow Cash + Dow EFP)

Substituting the value for Dow Over set out in Figure 5 at ¶ 31, and derived from the underlying concept set out in Figure 4, yields the formula:

Figure 9

$$\text{Dow Fair Value} = (\text{Dow Cash} * \frac{\text{SPU Over}}{\text{SPU Cash}}) + (\text{Dow Cash} + \text{Dow EFP})$$

4/24/07 p.m. Tr. at 69-70.

35. The formula in Figure 9 is what SIG has described as the "ultimate" version of its Dow Fair Value formula. 4/24/07 p.m. Tr. at 69. SIG contends that this formula is a proprietary trade secret. It also contends that the formula in Figure 4, from which the "ultimate" formula derives, is also a proprietary trade secret. 4/24/07 p.m. Tr. at 93; 4/25/07 Tr. Vol. I at 7, 59-60.

36. There are four components to the Dow Fair Value formula, as that formula is written in Figure 9: Dow Cash, SPU Cash, Dow EFP and SPU Over. As described in Figure 3, the SPU Over is itself derived from the S&P Future minus the SPU Cash and

the SPU EPF. All parties therefore generally describe the Dow Fair Value formula as having five inputs: Dow Cash, SPU Cash, Dow EFP and SPU EPF and the price of the S&P Futures. 4/23/07 Tr. at 150-52; 4/24/07 a.m. Tr. at 103.

37. The Dow Fair Value Formula allows a trader to calculate a numeric value for the expected fair value of the Dow Futures. A trader can then compare the resulting number for the Dow Fair Value with the actual amount for which the Dow Future is trading to determine whether to trade. If the market is trading above the Dow Fair Value calculation, this is a signal to sell; if the market is trading below the Dow Fair Value calculation, this is a signal to buy. 4/24/07 p.m. Tr. at 69-70.

38. The Dow Fair Value formula identifies a mispricing between the value of the Dow Futures and the S&P Futures. This mispricing is momentary, lasting from a fraction of a second to a few minutes. 4/24/07 p.m. Tr. at 43-44. 4/25/07 a.m. Tr. at 47.

39. As discussed more fully below, after SIG began using the Dow Fair Value formula to trade, the formula was put into a computer spreadsheet, which increased the speed with which its traders could calculate the value for the Dow Fair Value. SIG contends its use of the spreadsheet to calculate the Dow Fair Value formula is itself a trade secret. 4/24/07 p.m. at 93-94, 103-04.

C. SIG's Discovery of the Dow Fair Value Formula

(1) SIG's Trading of Dow Futures Before It Began Using the Dow Fair Value Formula

40. The Dow Futures pit at the Chicago Board of Trade opened in 1997. 4/26/07 Tr. at 26, 27.

41. In October 1997, SIG assigned a trader, Jim Lofredo,[6] to trade Dow Futures in the pit. Lofredo did not use the Dow Fair Value concept or formula in his trading. His trading was not particularly profitable and SIG had him stop trading Dow Futures after a few months. 4/26/07 Tr. at 67-68; 7/10/03 P.I. Tr. at 129.

42. In August of 1999, SIG assigned Francis Wisniewski to begin trading in the Dow pit to see if he could make any money trading Dow Futures. For the first month or so that he traded, Wisniewski used a strategy called "arbitrage fair value" that had been taught to him by SIG. 4/26/07 Tr. at 60-61.

43. The arbitrage fair value strategy looks to a future's banking fair value to set the future's "fair value." When a future is trading below its banking fair value, an arbitrage fair value strategy would consider the future undervalued and would signal to buy; when a future is trading above its banking fair value, the arbitrage fair value strategy

[6] The trial transcript notes that Mr. Lofredo's name is spelled phonetically. In the transcript of the Preliminary Injunction hearing, this trader's name is spelled "Lafredo."

would consider the future overvalued and would signal to sell. 4/26/07 Tr. at 61, 68-69.

44. Wisniewski's August 1999 trading in the Dow pit using the arbitrage fair value strategy was not profitable, and he only broke even on his trades. 4/26/07 Tr. at 61.

(2) Wisniewski's Development of the Dow Fair Value Concept and Formula

45. Around September 1999, after he had been trading unsuccessfully in the Dow pit for a month using an arbitrage fair value strategy, Wisniewski began observing what other, successful traders in the pit were doing. He observed other traders looking up at the electronic wall board near the Dow Futures pit and watching the values for the S&P Index. He noticed that when the values for the S&P Futures were going up, these traders were buying, and when the values went down, they sold. He also noticed that when the value of the S&P Future went up a dollar, the value of the Dow Future would go up nine dollars, an amount proportional to the different underlying cash values of the two indexes. He also observed that these traders appeared to be making money. 4/24/07 a.m. Tr. at 79; 4/26/07 Tr. at 61-62, 69-70.

46. Based on what he observed these other traders doing, Wisniewski wrote out the formula for Dow Fair Value, set out in Figure 9. He based this formula on what he deduced the

traders whom he had been observing were using as the basis for their trades. Wisniewski did not believe his formula was anything novel or unique, and drafting it did not take him much time. He viewed it as a simple algebraic expression of the concept that he observed other traders using. This concept was that, when the S&P Futures were trading over (or under) their banking fair value the Dow Futures should trade over (or under) their banking fair value in the same proportional amount. Wisniewski does not believe that he created this concept. 4/26/07 Tr. at 61-62, 69-73, 75.

47. After Wisniewski derived the Dow Fair Value formula, he used it to trade Dow Futures in the Dow pit for the next two months, September and October of 1999. By the end of that period, Wisniewski had made approximately $30,000 in profits. During this time, Wisniewski did not tell anyone at SIG about the Dow Fair Value formula because he did not think it was "anything special." 4/26/07 Tr. at 62-63, 73.

48. At this time, Wisniewski put the formula on a computer spreadsheet that was kept in the SIG trading booth, approximately twenty or thirty feet behind the Dow pit. Because Wisniewski did not have a handheld computer with him in the pit at this time, he did the calculations for the Dow Fair Value formula in his head when he traded in the pit in September and October of 1999. 4/24/07 p.m. Tr. at 25; 4/26/07 Tr. at 63-64.

49. After Wisniewski had been trading for two months using the Dow Fair Value formula, SIG decided to reassign him to a different trading floor, trading internet equity options. Wisniewski saved his spreadsheet containing the Dow Fair Value formula on his computer and did not use it for almost two years. 4/26/07 Tr. at 63, 73-74.

D. SIG's Trading Using the Dow Fair Value Formula

(1) Fishkin's Trading at SIG

50. After the internet boom ended in the spring of 2001, SIG reassigned Wisniewski from trading internet equity options and assigned him again to trade Dow Futures in the Dow pit. 4/26/07 Tr. at 63.

51. In August 2001, Wisniewski began trading in the Dow pit using the Dow Fair Value formula. He was assisted by Cal Fishkin, who joined him in the Dow pit in September 2001. 4/23/07 Tr. at 70; 4/26/07 Tr. at 63.

52. Cal Fishkin had joined SIG in late spring 1999, after his graduation from college. Other than participating in SIG's college internship program in the summer of 1998 and some trading on his own, Fishkin had not had any professional experience as a securities trader before beginning work at SIG, although he had traded on his own account. From June 1999

through August 2001, Fishkin worked for SIG in Chicago, trading equity options. 4/23/07 Tr. at 70.

53. In September 2001, Fishkin was assigned to assist Wisniewski trading Dow Futures in the Dow pit. Fishkin had not had any experience trading Dow Index Futures or any other index future before September 2001. 4/23/07 Tr. at 70-72.

54. When Fishkin began working with Wisniewski in the Dow pit, he learned that Wisniewski was trading using the Dow Fair Value concept and formula. Fishkin learned the concept and formula and used it to trade Dow Futures. 4/23/07 at 73.

55. Wisniewski and Fishkin's supervisor at SIG from 2001 through 2003 was John Capobianco, the manager of the Dow Trading group. Capobianco became the manager of the Dow Trading group around September 2003, after Wisniewski had returned to trading Dow Futures and around the same time that Fishkin began trading in the Dow pit. 4/23/07 Tr. at 175-76; 4/24/07 p.m. Tr. at 98.

56. Capobianco did not work in Chicago. He communicated with Fishkin and Wisniewski through a headset that allowed him to hear what the traders were doing in the pit and to communicate with them. Capobianco also had weekly conference calls with his traders. He also received information at the end of each trading day as to the traders' net position at the end of

trading and their profit and loss for the day. 4/24/07 a.m. Tr. at 21; 4/24/07 p.m. Tr. at 15.

57. Wisniewski and Fishkin's trading using the Dow Fair Value formula proved very successful. In 2002, the SIG Dow Trading Group, for which Wisniewski and Fishkin were the primary traders, made net trading profits of $30,000,000, a gain of $35,000,000 in Dow Futures, and a loss of approximately $5,000,000 on products used to hedge the Dow Futures trades. 4/24/07 a.m. Tr. at 99.

58. Igor Chernomzav was another trader employed by SIG. Chernomzav, however, did not trade Dow Futures at SIG. 7/9/03 P.I. Tr. at 132. No findings of fact were submitted to the Court by any party, as to what role, if any, Mr. Chernomzav played in SIG's Dow Trading Group before he and Fishkin left SIG to start TABFG in the spring of 2003, nor did any witness at trial testify about his role. The only mention of Chernomzav's work at SIG is a brief reference in the testimony of SIG Managing Director Mark L. Dooley at the earlier preliminary injunction hearing in this matter, designated by SIG as an exhibit in this trial.

(2) Hedging at SIG

59. Fishkin and Wisniewski engaged in hedging transactions to reduce the risk of their Dow Futures trades.

Fishkin and Wisniewski primarily used the S&P Futures to hedge their Dow Futures trades, but they also hedged with other products. Some of the other products Fishkin and Wisniewski used to hedge their Dow Futures trades were NASDAQ Futures, Dow options, trades in the underlying stocks in the Dow Industrial Average, and trades in "Diamonds," which are exchange-traded funds that track the Dow Jones Industrial Average. Trades in Dow Futures could also be hedged with other Dow Future trades. 4/23/07 Tr. at 118, 127; 4/24/07 a.m. Tr. at 92; 4/25/07 a.m. Tr. at 42.

60. SIG had no policy as to when a trade needed to be hedged or what hedging product should be used. These decisions were left up to the individual trader. A trader could decide to hedge part of the risk of a trade immediately and then wait to hedge the rest later. 4/24/07 a.m. Tr. at 92; 4/25/07 a.m. Tr. at 42, 65.

61. SIG could impose risk limits on Wisniewski and Fishkin when it believed they had taken on too much risk. If their manager, Capobianco, believed a position they had taken involved too much risk, he could ask them to reduce that risk by hedging. 4/25/07 a.m. Tr. at 66-67.

62. The largest unhedged position Fishkin ever had at SIG at the end of the day in dollar volume terms was $15 million. 4/24/07 a.m. Tr. at 20.

63. Logistically, hedging at SIG was done with one trader in the Dow pit trading Dow Futures and another trader trading S&P futures electronically in the nearby trading booth. The trader in the Dow Future pit and the trader in the booth, as well as Capobianco, were linked through headsets in a communication network. 4/24/07 p.m. Tr. at 25.

64. Hedging transactions were included in SIG's calculation of the profitability of the Dow Futures trading group. 4/24/07 p.m. Tr. at 26.

(3) Use of the Spreadsheet at SIG

65. When Wisniewski and Fishkin began trading in the Dow pit in August and September 2001, they did not have handheld computers. The spreadsheet that contained the Dow Fair Value formula was on a computer in the SIG booth, some twenty or thirty feet from the pit, and so was unavailable to them when they traded. Without access to the spreadsheet, Wisniewski and Fishkin would calculate the Dow Fair Value formula in their heads, using figures available on the electronic wall board. 4/23/07 Tr. at 166-68, 181-82; 4/26/07 Tr. at 63-64.

66. In the aftermath of September 11, 2001, the stock market experienced great volatility, which made it difficult for Fishkin and Wisniewski to calculate the changing values for the Dow Fair Value formula in their heads. At that time there were

five to ten traders in the Dow pit who were using handheld computers, and Fishkin and Wisniewski asked SIG to provide them with similar equipment. SIG provided Fishkin and Wisniewski with handheld computers by the end of October 2001. 4/23/07 Tr. at 167, 182; 4/26/07 Tr. at 64-65.

67. After receiving the handheld computers, Wisniewski and Fishkin used the spreadsheet to calculate the Dow Fair Value formula while they traded in the pit. 4/23/07 Tr. at 146, 153; 4/26/07 Tr. at 64-65.

68. Using the computer spreadsheet to calculate the Dow Fair Value formula while trading in the pit was a more effective way of trading than doing the calculation in one's head. Using the spreadsheet allowed the calculations to be made faster, allowing Fishkin and Wisniewski to make decisions faster and make more trades. 4/24/07 p.m. Tr. at 103-04; 7/10/03 P.I. Tr. at 172-173, 191-92.

69. The spreadsheet that Wisniewski and Fishkin used to calculate the Dow Fair Value formula was a publicly available Microsoft Excel spreadsheet. 4/24/07 p.m. Tr. at 85; 4/25/07 a.m. Tr. at 23.

70. The spreadsheet had "live feeds" of data that provided constantly-updated inputs of the values needed to calculate the formula. The values of these inputs were

constantly changing, which meant the numeric result of the formula was also constantly changing. 4/24/07 p.m. Tr. at 86.

71. The inputs into the spreadsheet included all the values necessary for calculating the Dow Fair Value Formula: the underlying cash value of the Dow Jones Industrial Average ("Dow Cash"); the underlying cash value of the S&P 500 Index ("SPU Cash"); the current price of the S&P Futures; and the exchange for physical for both the Dow Futures ("Dow EFP") and the S&P Futures ("SPU EFP"). 4/24/07 p.m. Tr. at 87-88.

72. "Live feeds" for all the values necessary to calculate the Dow Fair Value formula were publically available. SIG, however, used proprietary figures for the "exchange for physical" values in the formula because it used it used its own cost of capital for the interest rate portion of those values. 4/25/07 a.m. Tr. at 21-23.

73. The spreadsheet's display showed all of the components of the Dow Fair Value formula – Dow Cash, SPU Cash, SPU Over, Dow BFV and SPU BFV – as well as the numeric result of the formula. The numeric result of the Dow Fair Value formula was unlabeled on the spreadsheet, and the spreadsheet did not show the Dow Fair Value formula, itself. 4/24/07 p.m. Tr. at 87-89; Exhibit D-7.

74. The spreadsheet's display changed over time. In order to disguise the numeric result of the Dow Fair Value

calculation, SIG at one time had a large "dummy" number on its spreadsheet. This was done in the hopes of confusing other traders who might see SIG's spreadsheet while Fishkin or Wisniewski were trading in the pit into thinking the "dummy" number was the fair value number that SIG was using in its trading. 4/24/07 Tr. a.m. at 122; 4/24/07 p.m. Tr. at 89-90.

75. The spreadsheet calculated an expected fair value for the Dow Futures using the Dow Fair Value formula. The individual trader would compare the expected fair value on the spreadsheet with the current price of the Dow Future in the pit and decide whether to make a trade. The decision whether to make a trade and at what price was in the discretion of the trader. The spreadsheet did not contain any information relevant to hedging. 4/24/07 a.m. Tr. at 88-91; 4/25/07 a.m. Tr. at 31, 35.

E. Others' Knowledge of the Dow Fair Value Formula

(1) SIG's Efforts to Keep the Dow Fair Value Concept and Formula Confidential

76. SIG never publicly revealed or published its Dow Fair Value formula or the concept behind it. 4/24/07 p.m. Tr. at 93.

77. SIG included confidentiality provisions in its employment contracts with its traders, including Wisniewski, Fishkin, and Chernomzav, prohibiting the disclosure of confidential information, including "trading and/or order

execution techniques, methods and/or strategies; computer programs, software and data; [and] computational algorithms. . . ." Confidential information as defined in the contracts did not include "information which is public knowledge . . . or which is generally known in the industry." Exhibits D-1 at ¶ 13; D-10 at ¶ 13; D-15 at ¶ 13.

78. SIG took steps to minimize the possibility that other traders could learn about the Dow Fair Value concept or formula from the spreadsheet by not labeling the result of the formula and by including a "dummy" number. 4/24/07 Tr. a.m. at 122; 4/24/07 p.m. Tr. at 89-90.

79. At one point during the time Fishkin was trading at SIG, SIG agreed to become a "market maker" in the Dow mini. A market maker is obligated at all times to put out a price at which it would be willing to buy and a price at which it would be willing to sell a particular security. In return, the market maker has the opportunity to make a profit on the trades it makes. When SIG became a market maker in the Dow mini, it used the Dow Fair Value Formula to electronically set the price at which it would buy and sell the Dow mini. This had the effect of revealing SIG's Dow Fair Value calculation, because the prices at which SIG offered to buy and sell the Dow mini bracketed its calculation of fair value. After Wisniewski complained that SIG's market making was revealing this calculation, SIG changed

the way it made markets in the Dow mini to widen the spread between these prices in order to disguise its fair value calculation. 4/24/07 p.m. Tr. at 90-92.

80. During the time period relevant to this lawsuit, 2001 through 2003, SIG's use of the Dow Fair Value concept, the Dow Fair Value formula, and the spreadsheet in trading Dow Futures provided SIG with a competitive advantage over other traders who did not trade using that concept, formula, and spreadsheet. During this time period, Wisniewski and Fishkin profited by making trades with other traders who were not using the Dow Fair Value concept and formula. The spreadsheet provided an additional competitive advantage by allowing Wisniewski and Fishkin to calculate a value for the Dow Fair Value more quickly. Because, under the rules of the Dow pit, the trader who responds first to a bid or offer with the best price gets the contract, the additional speed provided by the spreadsheet enabled Wisniewski and Fishkin to get more trades. 4/23/07 Tr. at 166-68, 180-81; 4/24/07 p.m. Tr. at 103-04.

(2) Other Traders' Knowledge of the Dow Fair Value Concept and Formula

81. Although under prevailing "trading etiquette" in the Dow Futures pit traders and brokers did not usually talk explicitly about their strategies, the open nature of the pit, which enabled traders to see what trades were made and what

information seemed to spur those trades, allowed traders to get a sense of each others' strategies. Those traders who were trading based on a Dow Fair Value calculation tended to know each other and talk about trades they did. 4/23/07 Tr. at 173; 4/24/07 a.m. Tr. at 71-72; 4/26/07 Tr. at 28-30, 42-43, 48-49, 61-62, 71.

82. Of the 100 to 150 people who traded in the Dow Futures pit each trading day in 2001 to 2003, at least 8-10 traded using the same Dow Fair Value concept that SIG used. The traders using the Dow Fair Value concept included Mark Hatfield, who traded in partnership with David Rasmussen; Michael Mulroney, Doug Rock, and Renee Ritter-Purdy, who traded in a group; Rick Soul, Michael Floodstrand, Jim Kunsik, and traders from the firm of Timberhill & Timberhill. All of these traders priced the Dow Futures off the S&P Futures, using the concept embodied in Figure 4 at ¶ 29, above, i.e., that the percentage by which the Dow Futures were trading over or under their banking fair value should be the same as the percentage by which the S&P Futures were trading over or under their banking fair value. 4/24/07 a.m. Tr. at 62-64; 4/26/07 Tr. at 11, 15, 42, 48-49; Exhibit FP-16 at 15-16, 19.

83. At least six of these traders were using the Dow Fair Value concept to trade before September 1999, when Wisniewski first discovered it. These traders included James Kunsik, Rick Soul, Michael Floodstrand, Michael Mulroney and Doug

Rock, as well as traders from Timberhill and Timberhill. 4/26/07 Tr. at 33, 42, 47.

84. By 2001, several of the traders who used the Dow Fair Value concept to trade used a spreadsheet and a handheld computer when they traded in the pit. These traders included Rene Ritter-Purdy, Michael Mulroney, Michael Floodstrand, Mark Hatfield and Dave Rasmussen, and Timberhill & Timberhill. 4/26/07 Tr. at 16, 33, 42, 44, 50-51; Exhibit FP-16 at 18, 65.

85. At least two groups of traders who traded using the Dow Fair Value concept also used the same Dow Fair Value formula as did SIG. These traders were Mark Hatfield and his partner David Rasmussen and the group of Michael Mulroney, Doug Rock, and Renee Ritter-Purdy. 4/26/07 Tr. at 31, 49-51.[7]

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[7] David Rasmussen and Mark Hatfield were partners from 1998-2002. 4/26/07 Tr. at 32, 34. Hatfield traded Dow Futures in the Dow pit, and Rasmussen traded S&P futures electronically to hedge Hatfield's Dow Futures trades. 4/26/07 Tr. at 31; Exhibit FP-16 at 32-33. Rasmussen testified that the Dow Fair Value formula, set out above at Figure 9, ¶ 34, was the formula that Mr. Hatfield used in trading Dow Futures. 4/26/07 Tr. at 31. Hatfield testified by video deposition that he traded using the Dow Fair Value concept and that he used a formula and a spreadsheet to calculate the Dow Fair Value, but that he could not recall exactly what formula he used. Exhibit FP-16 at 16-18, 36-37, 44-51. Unlike Rasmussen, Hatfield was not shown a copy of the Dow Fair Value formula and asked if it was the formula he used, but instead was asked to describe or reconstruct his formula from memory. Mr. Hatfield stated several times that, if he had his spreadsheet with him, he could have worked out the formula. Exhibit FP-16 at 44-45, 51. The Court finds David Rasmussen's testimony that Mark Hatfield used the Dow Fair Value formula in trading Dow Futures to be credible and finds no contradiction between this testimony and Mark Hatfield's inability to describe his formula from memory.

Another trader, Martin Lorenzen, who had worked as a clerk in the pit from November 2000 until he began trading in late 2001, also used the Dow Fair Value formula to trade Dow Futures. Mr. Lorenzen, however, only traded Dow Futures electronically and did not trade in the Dow Futures pit. 4/26/07 Tr. at 14, 22.

(3) Public Knowledge of the Dow Fair Value Concept and Formula: The Article "Fair Value for Dummies"

86. An article entitled "Fair Values for Dummies," dated April 17, 2000, and with a byline by "Staff Writer Jake Ullick, New York (CNNfn)," was published on the internet sometime before November 7, 2001.[8]

87. The "Fair Value for Dummies" article begins by noting that the term "fair value" is a "phrase fast gaining

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[8] The URL for the "Fair Value for Dummies" article is:

http://web.archive.org/web/20011107091956/http://money.cnn.com/2000/04/17/investing/fairvalue/

Exhibit FP-35. According to the affidavit of Molly Bragg, Project Coordinator of the Internet Archive, Exhibit FP-34, a URL in this format indicates an archived version of a document from the Internet Archive. The URL of a document in the internet archive is in the format:

http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/Archived URL

Exhibit FP-34. The URL of the "Fair Value for Dummies" article therefore shows that it was archived in the Internet Archive on November 7, 2001, at 09:19:56 a.m. from the website http://money.cnn.com.

currency in the world of business journalism" and that "investors itching to know how the stock market might open" are using "fair value quotes" to do so. The article explains that understanding the concept of "fair value" begins with understanding the relationship between the S&P 500 futures contract and the S&P 500 Index. The article says that "determining the fair value relationship between the S&P 500 futures contract and the underlying S&P index requires adding [to the value of the index] the cost of borrowing the money to buy the S&P stocks while subtracting the gain those stocks pay in dividends." The article says that, although trading desks calculate this "fair value" number after the market closes, futures trading continues in the overnight market. This means that "if before the stock market opens, futures are trading above their fair value relationship to where the S&P closed the previous day, stocks are likely to open higher." Exhibit FP-35.

88. The article then goes on to give a "real-life example" of this concept. The article says that, on April 12, 2000, the S&P 500 Index closed at 1,467.17, but S&P Futures closed higher at 1,476.70, and the fair value for the S&P Futures was calculated to be still higher at 1,480.31. On the morning of April 13th, the S&P Futures ended their overnight trading at 1,483.20, which was 2.89 above their fair value of 1,480.31. This, the article says, led forecasters to predict that the stock

market would open higher, and "sure enough at 10:10 a.m., the S&P 500 index was up 3.49 to 1,470.66." Exhibit FP-35.

89. The article then notes that "[t]ypically, one point above or below fair value equals 8 points on the Dow Jones Industrial Average as trading begins" and that "[t]his 1-to-8 relationship reflects the ratio between the value of the S&P 500 ratio and the Dow." The article then says that "[a]t 10:10 a.m. ET, the Dow was up 15.20, near the 23.12-point gain that the fair value formula anticipated." Exhibit FP-35.

90. The article concludes by noting that the fair value concept can also be used in day trading in the S&P Futures. Although ordinarily the price of the S&P Futures moves in "a fair trade relationship" to the S&P 500 Index, occasionally the S&P Futures may trade above or below its fair value relationship with the underlying index. At these times, arbitragers will trade looking "to make money when the S&P 500 futures contract returns to its historic relationship the the S&P 500." Exhibit FP-35.

91. The article "Fair Value for Dummies" does not concern the Dow Fair Value concept or formula at issue in this lawsuit.[9]

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[9] Both plaintiff and defendants presented testimony concerning the meaning of the "Fair Value for Dummies" article. Counterclaim plaintiff SIG presented testimony by John Capobianco and counterclaim defendants Fishkin, Chermomzav and TABFG presented testimony by Cal Fishkin. Both witnesses gave opinions, and reached contrary conclusions, as to whether the article discussed or described the Dow Fair Value concept and

92. The term "fair value" as used in the article refers to what the witnesses at trial and the Court in this opinion have called "banking fair value." As discussed above at Figure 1, ¶ 21, the banking fair value of an index future is the cash value of the underlying index, adjusted for interest saved and dividends forgone by owning the future instead of the underlying stocks. This is the same definition that the article uses for the "fair value" of the S&P Futures: the value of the underlying S&P 500 index adjusted by "adding the cost of borrowing the money to buy the S&P stocks while subtracting the gain those stocks pay in dividends." Exhibit FP-35.

93. The article does describe the concept of "SPU Over" although it does not use that term. The concept of SPU Over, set out above in Figures 2 and 3 at ¶ 24, is the amount by which the S&P Futures are trading above or below their banking fair value. The article discusses the same concept, "the amount by which the S&P Futures are trading above their fair value relationship."

94. The Dow Fair Value concept at issue in this suit uses the SPU Over – the amount by which the S&P Futures are

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formula at issue here. See 4/24/07 a.m. Tr. at 73-81; 4/24/07 p.m. Tr. at 70-82; 4/25/07 Tr. a.m. at 16-19, 78-84. While the Court has considered the opinions of Fishkin and Capobianco in reaching its findings of fact concerning this article, the Court's findings are not based on the opinion of either witness, but on the Court's own analysis.

trading above or below their banking fair value – to derive a fair value for the Dow Futures. In contrast, the "Fair Value for Dummies" article discusses using the SPU Over to predict whether the stock market will open higher than its previous day's close. The article says nothing about using the SPU Over or the S&P's banking fair value to trade Dow Futures.

95. The only portion of the article that discusses futures trading describes how arbitragers buy or sell S&P Futures whenever the price of those futures "trades above or below its [banking] fair value relationship with the S&P 500 index." This describes the arbitrage fair value strategy that SIG and Wisniewski used prior to their discovery of the Dow Fair Value concept and formula. It does not describe the Dow Fair Value concept. See ¶¶ 42-43, above; 4/26/07 Tr. at 61, 68-69.

96. One part of the "real-life example" given by the article appears superficially similar to the Dow Fair Value concept. The article states that on the evening of April 12, 2000, the [banking] fair value of the S&P Futures was 1,480.31, but after overnight trading, the S&P Futures were trading at 1,483.20, or 2.89 over their banking fair value. The article states that there is an 1-to-8 ratio between the value of the S&P 500 ratio and the Dow, and "[a]t 10:10 a.m. ET, the Dow was up 15.20, near the 23.12-point gain that the fair value formula anticipated." The predicted 23.12 point gain is eight times the

2.89 points that the S&P Futures were trading over their banking fair value.

97. This calculation is superficially similar to the formula for the Dow Fair Value concept given in Figure 6 at ¶ 32:

Figure 6

$$\text{Dow Over} = \text{SPU Over} * \frac{\text{Dow Cash}}{\text{SPU Cash}}$$

The article takes the 2.89 points that the S&P Futures are trading over their banking fair value ("SPU Over") and multiplies it by the 8-to-1 ratio of the value of the Dow Industrial Index ("Dow Cash") to the value of the S&P 500 index ("SPU Cash") to get a predicted 23.12 point gain in the Dow. The article is therefore performing the same calculation as the right-side of the equation in Figure 6. The calculation in the article and the formula in Figure 6 differ, however, in the left side of the equation: the description of the result. The Dow Fair Value concept in Figure 6 describes the result of this calculation as Dow Over, the amount by which the value of the Dow Futures differs from its banking fair value. The article, in contrast, says that the result of this calculation is a predicted gain in the underlying Dow Industrial Index. The two calculations are therefore not the same.

F. Fishkin's Departure from SIG and the Formation of TABFG and the Joint Trading Venture with NT Prop

(1) Fishkin's Dissatisfaction with SIG

98. In June 2002, approximately ten months after he had begun trading Dow Futures with Wisniewski, Fishkin sought to open discussions with SIG about a new employment contract. Fishkin's then-current three-year contract with SIG was entered into in March 2000 and expired in March 2003. 4/23/07 Tr. at 88; 4/24/07 Tr. a.m. at 99; Exhibit D-1.

99. Fishkin's reason for seeking to discuss a new contract nine months before his current contract expired was his dissatisfaction with his compensation. At this time, Fishkin and Wisniewski's trading in Dow Futures was generating large profits for SIG. Through July 2002, Fishkin and Wisniewski had made SIG profits of approximately $10,000,000. The net profits of Fishkin and Wisniewski's Dow Trading Group in 2002 were between $20,000,000 and $30,000,000. Fishkin's base salary in 2001 and 2002 was $80,000 a year, and he received an $80,000 bonus in 2002 for work he did in 2001 and a $365,000 bonus in 2003 for the work he did in 2002. Fishkin's base salary was increased to $100,000 in 2003. 4/23/07 Tr. at 80-85; 4/24/07 a.m. Tr. at 99; 7/8/03 P.I. Tr. at 107-08.

100. Fishkin did not receive a response from SIG for several months to his request to open negotiations on a new contract. Shortly after making his request, however, he was

asked by SIG to train another trader, Sean Haggerty, in trading Dow Futures. One of SIG's reasons for having Haggerty join Wisniewski and Fishkin was to protect SIG's investment and allow SIG to continue to trade Dow Futures in the event Wisniewski left the firm. 4/24/07 Tr. a.m. at 99-100; 7/8/03 P.I. Tr. at 116.

101. In November 2002, Fishkin told Chernomzav that he was not happy at SIG and that he was going to leave the firm. 4/24/07 a.m. Tr. at 51.

(2) Fishkin's Initial Discussions about a Joint Venture to Trade Dow Futures

102. In December 2002, Fishkin was approached on the floor of the Chicago Board of Trade by John Zawalski, a broker and trader for another company, who asked Fishkin if he was happy with his employment at SIG. Fishkin told him he was not happy. 4/23/07 Tr. at 88-89; 4/24/07 a.m. Tr. at 49-50.

103. Zawalski told Fishkin that he was attempting to organize a group to trade Dow Futures and asked whether he would be interested in helping form that group. Fishkin said he would be interested after his then-current contract with SIG expired in March 2003. 4/23/07 Tr. at 90-91; 4/24/07 a.m. Tr. at 50; Trial Ex. D-31 at No. 3.

104. After this initial approach, there was a dinner meeting between Fishkin and Wisniewski and two representatives of what Fishkin referred to as "NT," Larry Nocek and Robert J.

O’Byrne, about forming a group to trade Dow Futures. At the dinner, Fishkin said he would be interested in joining such a group after the expiration of his contract with SIG in March 2003. 4/23/07 Tr. at 93-94.

105. Fishkin had not met Nocek before the dinner meeting. Fishkin knew Nocek and O’Byrne worked for “NT something,” but he did not know exactly which NT entity it was. He believed Nocek was the head of this company and that O’Byrne worked for him. Only in April 2003, did Fishkin become aware that NT Prop was the entity with which he was going to enter into an agreement. 4/24/07 a.m. Tr. at 51-53.

106. Wisniewski said he would be interested in joining Fishkin and the NT representatives in the new venture if SIG consented or if he could, through a court ruling or otherwise, become free of his contractual obligations to SIG. As discussed below, Wisniewski’s then-operative contract with SIG had different non-competition provisions than Fishkin’s. 4/23/07 Tr. at 94-95; 4/24/07 a.m. Tr. at 43; Exhibit D-31 p.3.

107. A further meeting to discuss the new venture was held at the offices of “NT” in February or March of 2003. Attending were Wisniewski, Fishkin, Nocek, O’Byrne, and Zawalski. The same participants also held a second dinner meeting sometime shortly thereafter. 5/12/03 Dep. of Wisniewski at 20, 23, 24.

108. In the end, Wisniewski did not join the new venture and remained at SIG. 4/24/07 a.m. Tr. at 44.

(3) The Ownership of NT Prop

109. NT Prop was incorporated in Illinois on April 11, 2003. Ownership of NT Prop is split 50/50 between NT Financial Group and Pfeil Commodity Fund LLC. Larry Nocek is the biggest shareholder of NT Financial Group, owning 42% of the company. Richard Pfeil is the sole shareholder of Pfeil Commodity Fund LLC. Pfeil is also an investor in NT Financial Group. Exhbit D-400; 3/3/04 Dep. of Larry Nocek at 12-13, 27-28; 3/3/04 Dep. of Richard Pfeil at 4, 6;[10]

[10] At trial, NT Prop moved to admit into evidence designations from the depositions of four NT Prop principals: 1) Larry Nocek, NT Prop's co-manager and principal shareholder of NT Financial Group, one of NT Prop's two parent corporations; 2) Richard Pfeil, sole shareholder of NT Prop's other parent corporation, Pfeil Commodity Fund LLC; 3) William Anthony, NT Prop's co-manager and Richard Pfeil's attorney; and 4) Robert J. O'Byrne, an employee of NT Financial Group. SIG objected on the grounds that NT Prop ought not to be allowed to present deposition testimony of its own witnesses, but should be required to have such witnesses testify live. The Fishkin parties then moved to admit the same designations, arguing that this disposed of SIG's objections. The Court will overrule SIG's objections to the admission of these designations because they have been moved into evidence by the Fishkin parties.

Rule 32(a)(4)(B) of the Federal Rules of Civil Procedure allows a party to use the deposition of a witness for any purpose, if the court finds that witness is more than 100 miles from the place of trial, unless it appears that the witness's absence was procured by the party offering the deposition. This rule would appear to apply here, as it is undisputed that none of these witnesses is within 100 miles of

110. The business of NT Prop was to assist and financially back traders. NT Prop does not itself provide funds from its own accounts, but arranges financing from others. NT Prop has no employees. 10/7/03 Dep. of Robert J. O'Byrne at 6, 7-8.

111. NT Prop had two managers. One was Larry Nocek. The other was William Anthony, Richard Pfeil's attorney. 12/22/05 Dep. of Larry Nocek at 12; 3/3/04 Deposition of William Anthony at 4, 5.

112. Sometime in early April, Nocek suggested to Pfeil that they fund a venture with what Nocek described as a group of smart traders. Pfeil suggested Nocek discuss details with his lawyer, William Anthony. Pfeil ended up providing $2,000,000 in start up money to the joint venture through NT Prop. 3/3/04 Dep. of Richard Pfeil at 6-9.

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this Court and that none of the parties procured the witnesses' absence. There is some disagreement in the federal courts, however, as to whether a party is allowed to admit the deposition testimony of its own witnesses under Fed. R. Civ. P. 32(a)(4)(B). See generally 8A Charles A. Wright, et al. Federal Practice and Procedure § 2147 (1994 ed. and suppl.). Although both Wright and Miller and the majority of cases to address the issue suggest that a party should be able to introduce its own deposition if the conditions of 32(a)(4)(B) are met, the Court need not address the issue here. The Fishkin parties have separately moved to introduce the challenged deposition designations of the NT Prop witnesses and, because they are not seeking to introduce the testimony of their own witnesses, SIG's objection is not applicable as to them and the depositions are admissible under Fed. R. Civ. P. 32(a)(4)(B).

(4) Fishkin's Disclosure to Representatives of NT Prop About the Restrictive Covenants in his Employment Contract with SIG

113. Fishkin and Chernomzav's contracts with SIG contained covenants not to compete, non-association provisions, and confidentiality provisions. The non-competition provisions in Fishkin and Chernomzav's contracts barred them, without written consent from SIG, from trading (in any manner or capacity) in any products that they had traded during the three months before they left SIG's employ, for a period of either nine months after termination or three years after beginning SIG's initial training course, whichever was later. The non-association provisions of Fishkin and Chernomzav's contracts barred them, for a period of five years after the termination of their employment, from i) inducing any SIG employee from leaving SIG's employ or ii) from hiring, managing, or supervising, or becoming associated with in a partnership or corporation, any person who is or was a SIG employee in the nine months prior to being hired, managed, supervised, or associated with Fishkin or Chernomzav. Their contracts also contained provisions barring them from disclosing SIG's confidential information to others, either during or after the termination of their employment, without SIG's prior written consent. Exhibit D-1 at ¶¶ 8, 13; Exhibit D-10 at ¶¶ 8, 13.

114. Francis Wisniewski's contract with SIG, entered into September 27, 2002, also contained non-competition, non-association provisions, and confidentiality provisions. The non-competition provisions differ from those in Fishkin and Chernomzav's contract. Wizneiwski's contract with SIG barred him from trading in, or being financially interested in the trading of, any financial products as long as he was employed by SIG or until December 31, 2003, whichever was later. It also barred him from trading in any products that he was trading in the three months prior to any termination from SIG for a period of nine months after his termination or September 30, 2004, whichever was later. The non-association and confidentiality provisions in Wisniewski's contract are substantively identical to those in Fishkin and Chernomzav's contracts. Exhibit D-15 at ¶ 7.

115. Fishkin and the NT representatives had several subsequent meetings between December 2002 and April 2003 to discuss setting up the new trading venture. 4/23/07 Tr. at 98-99.

116. In these meetings, Fishkin told the NT representatives that there were restrictive covenants in his contract with SIG, and that he believed these clauses were invalid and unenforceable. Fishkin testified that, among the NT Prop representatives whom he told, were Larry Nocek and William

Anthony, who was one of the managers for NT Prop as well as an attorney for Richard Pfeil. 4/23/07 Tr. at 98-100.

117. Fishkin told the NT representatives that these restrictive covenants would have to be dealt with and this would require hiring attorneys and paying legal fees. Fishkin also told NT representatives about the restrictions in Wisniewski's contract and that dealing with Wisniewski's restrictions might require even more fees. 4/23/07 Tr. at 100-03.

118. Fishkin told NT representatives that, if they wanted him to work with them, they would have to bear some of the legal costs involved in lifting these restrictive covenants. 4/23/07 Tr. at 103.

119. In deposition testimony admitted into evidence, Larry Nocek contradicts Fishkin's testimony that Fishkin told him about the restrictive covenants. Nocek denies being told by either Fishkin or Wisniewski that they had restrictive covenants in their employment contracts with SIG and says, to the contrary, that Fishkin said that he had no restrictions on his ability to trade in the joint venture. 3/3/04 Dep. of Larry Nocek at 34-35, 38, 39, 41, 74-75.

120. The Court had the opportunity to observe Fishkin testifying at trial and found him to be credible. The Court, not having had the opportunity to observe Nocek's testimony, therefore resolves the contradiction between Fishkin and Nocek's

testimony in Fishkin's favor, finding that he did inform Nocek of the restrictive covenants in his employment contract.

121. In deposition testimony admitted into evidence, Richard Pfeil testified that he had no knowledge concerning Wisniewski or Fishkin's employment agreements and did not even know what company they had been working for before NT Prop entered into the joint venture with Fishkin. Pfeil testified he left details of the deal to his lawyer, William Anthony. Anthony testified at deposition that he was told about the existence of the restrictive covenants in Fishkin's contract by TABFG's lawyer, not by Fishkin, but that he never asked to see the covenants because he assumed they were no longer in existence. Anthony testified that he may have been aware of the existence of this lawsuit in May 2003, but did not see a complaint until the summer of 2003. 3/3/04 Dep. of Richard Pfeil at 10, 11, 12; 3/3/04 Deposition of William Anthony at 5, 9-10, 21-22, 26-27.

(5) Fishkin's Disclosures to NT Prop Concerning His Trading Methods and Profitability at SIG

122. At one of the preliminary meetings between Fishkin and "NT," some of the NT representatives, including Larry Nocek, asked Fishkin how profitable the trading strategy that he had used had SIG had been and how much money he had made that year. Fishkin told them he could not give them that information because

of the confidentiality provisions in his contract. 4/23/07 Tr. at 108.

123. Nocek then pressed Fishkin as to how much money he made at SIG, asking him if it was more than $5 million. Fishkin answered by saying "You'll be pleased." 4/23/07 Tr. at 113.

124. In the meetings between Wisniewski, Fishkin, and representatives of NT Prop, neither Fishkin nor Wisniewski told representatives of NT Prop how much money they were making at SIG, although they did let NT Prop know that their trading was profitable. NT Prop was likely already aware that Wisniewski and Fishkin were making money for SIG because that fact would have been generally known to other traders because of the volume of contracts they traded, particularly to John Zawalski who was one of the largest traders in the Dow Futures pit. 5/12/03 Dep. of Wisniewski at 23, 24, 34; 10/7/03 Dep. of Robert J. O'Byrne at 64-65.

125. At some point before signing an agreement, Fishkin filled out a questionnaire for NT. This questionnaire was given him by O'Byrne, who told him that the questionnaire "wasn't really important." 4/23/07 Tr. at 113-114; Ex. D3A; 4/24/07 a.m. Tr. at 54.

126. The questionnaire asked Fishkin to "Describe your group's trade in detail (get as granular as possible on products, exchanges, trading style, position and management process, risk

management process, etc.)." Fishkin's answer was "We obtain a 'fair value' in the Dow [F]utures with a simple formula. We then trade SPU [F]utures which hedge about 85% of our risk, and NASDAQ [F]utures to hedge even better." The reference to obtaining a 'Fair Value' in the Dow Futures with a simple formula referred to both what Fishkin had done at SIG and what he intended to do at TABFG in partnership with NT Prop. 4/23/07 Tr. at 117-21; Exhibit D-3A at ¶ 1.

127. The questionnaire asked Fishkin, "What area of market inefficiency is being exploited?" and he answered, "Dow futures." It asked "What is driving that market inefficiency," and Fishkin answered "Bad pricing by other traders." 4/23/07 Tr. at 123; Exhibit D-3A at ¶ 2.

128. The questionnaire asked Fishkin, "How long have you/the group been doing this trade?" and he answered, "1 and 1/2 years." It asked "What personnel are required? Who are the proposed people?" and he answered, "We will use Igor [Chernomzav], Cal [Fishkin] and Liz in the office and Kent [Spellman] in the pit." To the question, "What do each of the people do during the course of the day," Fishkin answered, "Kent initiates the trade in the pit, and the others initiate trades electronically and do all the hedging." 4/23/07 Tr. at 123; Exhibit D-3A at ¶¶ 7, 9, 10.

129. The questionnaire asked Fishkin, "What applications have you/your group built," and he answered, "Excel spreadsheets." It asked "What specific incidents are traded," and Fishkin answered "Dow [F]utures, SPU [F]utures and NASDAQ [F]utures." 4/23/07 Tr. at 124; Exhibit D-3A at ¶¶ 27, 33.

130. The questionnaire also asked questions concerning risk limits and profits and loss. Fishkin did not answer these questions and left them blank because he believed that information to be confidential. 4/23/07 Tr. at 127-28; Exhibit D-3A at ¶¶ 45-55.

131. The questionnaire also asked whether, "If you come to NT Securities, would you or anyone in your group be violating any non-competes or intellectual property agreements." Fishkin left this blank. 4/23/07 Tr. at 128-29; Exhibit D-3A at ¶ 61.

132. Fishkin also prepared a one-page document for NT setting out the hedging strategy he intended to use in the joint venture, in order to allow NT to assess the margin financing required for the venture. This document stated that:

> The technique/strategy to be implemented uses a formula designed to find a "fair value" for Dow Futures. "Fair value" is defined as the price Dow [F]utures should be presently trading at based on technical analysis and news analysis. This technique takes advantage of price discrepancies either in the pit or on the electronic trading platform, wherever they occur. When the future price is trading sufficiently different from the determined "fair value" a trade will occur to capture the perceived

> edge. To hedge market risk the S&P [F]utures will be traded. . . . Further reduction of the risk . . . will take place using the Nasdaq [F]utures.

4/24/07 a.m. Tr. at 10; Exhibit D-8.

133. The document also gave an example of a day's trading activity:

Figure 10

Dow Futures Pit
+800/-500

Dow Futures Electronic
+300/-200 (600/400 minis)

S&P e-minis
+900/-1700

Nasdaq e-minis
+100/-25

Net position going home
+400 Dow futures
-800 S&P e-minis
+75 Nasdaq e-minis

In this example, the positive numbers are the number of contracts bought and the negative numbers are the number of contracts sold. The position "going home" represents the net number of contracts left at the end of the day after all the purchases and sales of each product are matched against each other. 4/24/07 a.m. Tr. at 10-14; Exhibit D-8.

134. Neither Fishkin nor Wisniewski disclosed either the Dow Fair Value concept or formula to NT Prop or any NT

representative. Neither Fishkin nor Wisniewski ever told NT Prop details about how they had been trading at SIG. 4/24/07 a.m. Tr. at 54; 5/12/03 Dep. of Wisniewski at 42-43.

(6) The End of Fishkin's Employment with SIG and the Creation of TABFG and the Joint Venture with NT Prop

135. In February 2003, Fishkin stopped trading for SIG and took paid leave. Fishkin left SIG in March 2003 when his employment contract expired. 4/23/07 Tr. at 56; 4/24/07 a.m. Tr. at 100.

136. When Fishkin left SIG, he took no materials with him. 4/24/07 Tr. a.m. at 102.

137. After Fishkin had left SIG, his lawyers contacted SIG seeking to negotiate a waiver of the restrictive covenants in his employment contract. SIG responded by saying that they needed more information before they could agree to negotiate. On March 30, 2003, Fishkin, Wisniewski, and Chernomzav filed this action seeking a declaratory judgment that the restrictive covenants in their employment agreements were unenforceable. 4/23/07 Tr. at 59-62.

138. On March 31, 2003, articles of incorporation were filed for TABFG, a limited liability company formed by Fishkin, Chernomzav, and Kent Spellman, of which Fishkin owned the largest share. Wisniewski did not participate in forming TABFG and had

no ownership interest in it. 4/23/07 Tr. at 132; 4/24/07 a.m. Tr. at 44, 102.

139. In late April 2003, TABFG and NT Prop entered into a joint venture agreement. The purpose of the joint venture was trading securities and futures products on the Chicago Board of Trade and other exchanges. Funding for the joint venture was to be provided by NT Prop, but all trading for the joint venture was to be done by TABFG, using the professional judgment of its principals. Through NT Prop, the joint venture received $2,000,000 to fund the trading operation and, under the joint venture agreement, could have received up to $10,000,000. 4/23/07 Tr. at 104-05; 4/24/07 a.m. Tr. at 55; Exhibit D-9.

140. Under the joint venture agreement, any net profits up to $5,000,000 were to be split 50/50 between TABFG and NT Prop (less costs advanced by NT Prop to TABFG), with TABFG receiving a greater share of profits above that amount. The joint venture's net profits did not exceed $5,000,000 during the time that TABFG traded. 4/23/07 Tr. at 105-6; Exhibit D-9.

141. The joint venture agreement specifies that TABFG and NT Prop shall share the "costs incurred by TABFG and/or its principals in connection with the termination of their previous employment relationship," including legal fees and possible payments to SIG. The agreement states that "the parties shall equally bear the costs of the attorney's fees up to the amount of

$250,000" and “shall equally bear 100% of the costs associated with payments to TABFG and/or its principals to their previous employer up to the amount of $400,000, provided that the joint venture’s net profits exceed $100,000 during the term of the venture.” 4/23/07 Tr. at 134-37; Exhibit D-9.

142. Several provisions of the joint venture agreement describe TABFG’s trading methods and software as proprietary. The agreement says that the joint venture’s trading will be done by TABFG “using the professional judgment of its principals and its confidential proprietary systems and software.” The section of the agreement discussing the disposition of the joint venture’s property in the event the agreement is terminated states that “all computer software, source codes and embodiments of same will belong exclusively to TABFG, . . . the parties acknowledging that the software, systems, codes and trading techniques of TABFG are the sole and exclusive proprietary property and Trade Secrets of TABFG which will not be disclosed to NT Prop and in which NT will not acquire any rights.” Exhibit D-9.

G. Trading at TABFG

(1) TABFG Begins Trading

143. TABFG began trading on April 25, 2003. It traded for four and a half months until September 25, 2003, when it was

enjoined from trading by this Court. 4/23/07 Tr. at 88; 4/25/07 p.m. Tr. at 4; Exhibit FP-26; Memorandum and Order of September 25, 2003.

144. Although Fishkin and Chermomzav (along with Wisniewski) had filed this suit on March 30, 2003 seeking a court ruling to declare the restrictions in their contracts with SIG invalid, they had not received a ruling when they, through TABFG, began to trade. After SIG learned that TABFG had begun trading, it filed counterclaims in this lawsuit against Fishkin and Chermomzav and impleaded TABFG and NT Prop as third-party defendants. 4/23/07 Tr. at 59-62; 4/24/07 a.m. Tr. at 44-5.

(2) TABFG's Use of the Dow Fair Value Concept, Formula, and Spreadsheet

145. Fishkin and Chernomzav traded Dow Futures at TABFG using the same Dow Fair Value concept and formula that Fishkin had used at SIG. As Fishkin did at SIG, Fishkin and Chernomzav used a spreadsheet at TABFG to calculate the Dow Fair Value formula. 4/23/07 Tr. at 88; 4/24/07 a.m. Tr. at 103.

146. The spreadsheet Fishkin and Chernomzav used at TABFG contained the same Dow Fair Value formula that Fishkin had used at SIG, but the TABFG spreadsheet used different values for some of the variables in the formula. 4/24/07 a.m. Tr. at 102-04.

147. Two of the five inputs to the Dow Fair Value formula, the cash value of the Dow Industrial Average ("Dow Cash") and the cash value of the S&P 500 Index ("SPU Cash"), are publicly-available, non-proprietary values, and so the values for these variables would have been the same at both SIG and TABFG. 4/24/07 a.m. Tr. at 102-04.

148. SIG and TABFG used different values, however, for two other inputs to the Dow Fair Value formula, Dow Exchange for Physical ("Dow EFP") and S&P Exchange for Physical ("SPU EFP"). SIG calculated its own values for these inputs using an internally-derived interest rate. TABFG purchased these inputs from Bloomberg Data Service. 4/24/07 Tr. a.m. at 102-04.

149. SIG and TABFG also used slightly different values for the fifth variable, the price of the S&P Futures. Because the price of the S&P Futures consists of both a bid price and an offer price, there are several different ways of measuring it. At SIG, the price of the S&P Futures was determined by using a "reverse weighted bid ask average"; at TABFG, Fishkin used what he called a "squared price" as the price of the S&P Futures. 4/24/07 a.m. Tr. at 102-04.

150. Because the spreadsheets used by SIG and TABFG had different inputs for the variables in the Dow Fair Value formula, the two spreadsheets would have often generated different results for the expected fair value of the Dow Futures. This difference

could, on some occasions have caused SIG and TABFG to make different trading decisions, even though they were using the same formula. At times, the numbers could diverge sufficiently that using the same formula with different inputs could result in traders trading against each other, i.e. going on the opposite side of a trade, offering to buy when the other is offering to sell. 4/24/07 a.m. Tr. at 104-105; 4/25/07 a.m. Tr. at 24.

151. During the four and a half months that TABFG was in operation, there were at least 13 trades on which SIG and TABFG were on opposite sides. It is possible that these trades were the result of SIG and TABFG reaching opposite conclusions about the fair value of the Dow Futures for those trades. It is also possible, however, that these trades were due to either TABFG or SIG "closing out" a position. "Closing out" a position is when a trader actually fulfils the traded contracts, i.e., when one is long in a product, selling what one bought, and when one is short in a product, buying what one sold. In a "closing out" transaction, a trader is not necessarily looking to profit from a momentary mispricing. If either SIG or TABFG were closing out a position, they could be on opposite sides of a transaction without necessarily having calculated different fair values for the Dow Futures. 4/24/07 a.m. Tr. at 17, 106-114; 4/24/07 p.m. Tr. at 19-20.

(3) Harm to SIG from TABFG's Competition

152. During the time that TABFG and SIG were both trading, there were times when a TABFG trader obtained a trade that SIG would have wanted. It is possible, however, that given the direction of the market some or all these trades might not have been profitable for SIG, and so losing the trades to TABFG could have saved SIG from a loss. 5/12/03 Dep. of Wisniewski at 57-60.

153. TABFG's trading using the same Dow Fair Value concept and formula as SIG, although with slightly different inputs, meant that TABFG and SIG would often, but not always, be competing for the same trades. In the four and a half months that TABFG and SIG competed, it is more likely than not that TABFG made and profited from some trades that, had TABFG not been competing, would have been made by SIG.

154. SIG has conceded that, because of the nature of securities trading, it cannot identify any specific trades that it lost because of TABFG's competition and therefore cannot calculate the amount of profits it lost from TABFG's trading. SIG's Proposed Findings at ¶ 146.

155. Despite TABFG's competition, the four and a half months during which SIG and TABFG were both trading were profitable ones for SIG. SIG had cumulative profits of $389,925 trading Dow Futures from May through August 2003. In the four

months prior to May 2003, SIG had lost $832,045 trading Dow Futures. 4/25/07 a.m. Tr. at 49.

(4) Hedging, Hedging Ratios, and the Total Number of Dow Futures, S&P Futures, and NASDAQ Futures Traded at TABFG Using the Dow Fair Value Formula

156. At TABFG, Fishkin hedged Dow Futures trades by trading S&P Futures and NASDAQ futures. 4/23/07 Tr. at 141.

157. Fishkin also traded S&P Futures at TABFG based on strategies unconnected to hedging Dow Futures trades. These strategies included "free-rolling" in the S&P Futures, which refers to making trades where a trader is guaranteed a profit; making speculative directional bets on the market for S&P Futures, "buying in the hope the price would rise"; and trading S&P Futures and NASDAQ Futures against each other. Additional strategies for trading the S&P Futures were used in the last month of TABFG's trading. 4/23/07 Tr. at 183, 186-87, 191-2.

158. TABFG traded a total of 159,334 Dow Futures contracts (measured with all Dow mini trades converted to Dow Bigs) and 404,182 S&P Futures contracts (measured with all SPU Big contracts converted to SPU minis). TABFG traded a total of 150,158 NASDAQ contracts. 4/24/07 a.m. Tr. at 24.

159. All of TABFG's 159,334 Dow Futures contracts were traded as result of using the Dow Fair Value formula. Not all of TABFG's 404,182 S&P Futures contracts or 150,158 NASDAQ contracts

were traded in order to hedge its Dow Futures trades, but were instead traded as a result of the other strategies TABFG was using.

160. Both SIG and the Fishkin parties concede that trading records are not sufficiently detailed to allow one to determine exactly which of TABFG's trades in S&P Futures were made in order to hedge Dow Futures, as opposed to being traded for other reasons. Both SIG and Fishkin agree that the proper method for determining which of TABFG's S&P Futures trades were made as a result of hedging the Dow Futures is to estimate a ratio for the number of S&P Futures that TABFG traded as a hedge for the Dow Futures. 4/24/07 a.m. Tr. at 42-44, 93; 4/25/07 p.m. Tr. at 8-10; SIG's Proposed Findings at ¶¶ 101-06.

161. One way to measure a hedging ratio is as of an end-of-day or "going home" position. This reflects the ratio of the traded product to the hedge at the end of the trading day. 4/24/07 a.m. Tr. at 15-18; 4/25/07 p.m. at 36-42.

162. Because TABFG traded S&P Futures under several different strategies, TABFG's end-of-day figures for Dow Futures to S&P Futures would not represent a hedging ratio, because not all the S&P Futures would have been traded as hedges. To estimate Fishkin's hedging ratio at TABFG, SIG proposes using Fishkin's end-of-day trading ratio for the months that he traded at SIG. For the eleven-month period from January 2, 2002,

through November 15, 2002, Fishkin's overall end-of-day hedging ratio was slightly over one Dow Futures contract (calculated in terms of Dow Big) to 1.8 S&P Futures contracts (calculated in terms of SPU mini). 4/24/07 p.m. Tr. at 31-34; Exhibit FP-13; SIG's Proposed Findings at ¶ 104.[11]

163. An end-of-day trading ratio is only a "snapshot" of the relative positions a trader has taken at a particular period of time. The actual number of contracts traded as a hedge may differ significantly from an end-of-day trading ratio.

[11] To calculate this ratio, SIG determined the number of Dow Futures contracts (in Dow Bigs) and S&P Futures contracts (in SPU Minis) that SIG had at the end of each trading day and then totaled the Dow Futures contracts for each day together and the S&P contracts for each day together (using absolute values to ignore whether the contracts were long or short), and compared the two totals to get an end-of-day trading ratio for the eleven months. 4/24/07 p.m. at 29-37; Exhibit FP-13; Exhibit D-40.

164. This is illustrated by the example Fishkin used in the one-page document describing his trading strategy that he gave NT, set out in Figure 10 at ¶ 133, above:

Figure 10

Dow Futures Pit
+800/-500

Dow Futures Electronic
+300/-200 (600/400 minis)

S&P e-minis
+900/-1700

Nasdaq e-minis
+100/-25

Net position going home
+400 Dow futures
-800 S&P e-minis
+75 Nasdaq e-minis

In this example, the hedging ratio of Dow Futures to S&P Futures at the end of the day is 400 Dow long to 800 S&P short, or 1:2. The actual number of Dow Futures and S&P futures traded during the day in the example, however, is 1800 Dow Futures (Big) to 2600 S&P Futures (mini), for a ratio of 1:1.4. 4/24/07 a.m. Tr. at 10-17; 4/25/07 p.m. Tr. at 8-10; Exhibit D-8.

165. Fishkin contends that, as in the example in Figure 10, the actual ratio of S&P Futures contracts that TABFG traded to hedge the Dow Futures will be smaller than the end-of-day hedging ratio. Fishkin estimates that the actual ratio of S&P

Futures contracts traded as hedges to Dow Futures trades at TABFG was 1:1. 4/25/07 p.m. Tr. at 9-13.

166. Fishkin also put forward an alternative way of estimating a trading ratio from the records of his trading at SIG. Instead of calculating an end-of-day hedging ratio as SIG proposes, Fishkin proposes taking the ratio of the total number of Dow Futures contracts (converted into Dow Big equivalents) and S&P contracts (converted into SPU mini equivalents) that SIG traded during 2002. This ratio is 1:1.21. 4/25/07 a.m. Tr. at 51-56; 4/25/07 p.m. Tr. at 11-13.

167. TABFG traded 159,334 Dow Futures contracts. Using Fishkin's estimate that his ratio of S&P Futures actually traded to hedge the Dow Futures was 1:1, this would mean that 159,334 of TABFG's total 404,182 S&P Futures contracts were traded to hedge the Dow Futures or 39.42% of the total traded at TABFG. If Fishkin's alternate ratio of 1:1.21 were used, the number of S&P Futures traded as hedges would be 191,794 out of 404,182 or 47.70%. If SIG's proposed end-of-day hedging ratio of 1:1.8 were used, the number of S&P Futures traded as hedges would be 286,801 out of 404,182 or 70.96%. 4/25/07 p.m. Tr. at 10-13; FP-31; SIG's Proposed Findings at Appendix A.

168. Fishkin used the NASDAQ futures to further hedge his risk from trading Dow Futures. Fishkin used NASDAQ futures to hedge 14% or 15% of his risk in the S&P Futures at TABFG. SIG

contends that this means that TABFG hedged with the NASDAQ futures at a ratio of 0.145 NASDAQ contracts to every S&P Futures contract that TABFG used to hedge the Dow. 4/24/07 a.m. Tr. at 40-41; 4/25/07 p.m. Tr. at 17; SIG's Proposed Findings at ¶ 106.

169. The Fishkin parties have introduced into evidence a summary chart of their calculations of the number of S&P Futures and NASDAQ contracts traded at TABFG in order to hedge the Dow Futures, Exhibit FP- 31. On this chart, the Fishkin parties concede that 22,077 NASDAQ contracts or 14.7% of the total 150,158 NASDAQ contracts traded at TABFG, were traded as part of the hedging of Dow Futures trades. No testimony, however, was presented at trial to explain how the Fishkin parties derived this 22,077 number, and the number seems inconsistent with Fishkin's testimony that he used the NASDAQ to hedge 14% to 15% of his risk in the S&P Futures. On the Fishkin's parties' chart, the 22,077 number for the NASDAQ hedges remains unchanged across two different alternative calculations for the number of S&P Futures traded to hedge the Dow Futures. If, as Fishkin testified, the NASDAQ Futures were being used to hedge risk in the S&P Futures, then the number of NASDAQ Futures used as hedges should vary with the number of S&P Futures used to hedge. The Court finds that the Fishkin parties' chart is an admission that at least 22,077 NASDAQ Futures contracts were traded at TABFG as part of the hedging of TABFG's Dow Futures

trades, but finds the lack of any foundation or evidentiary basis for this figure prevents the Court from giving it any evidentiary weight.

170. If the ratio of 0.145 NASDAQ contracts to every S&P Futures contract is used to calculate the number of NASDAQ contracts traded as part of TABFG's Dow Futures hedging, then the number of NASDAQ contracts depends on the number of S&P Futures contracts used to hedge. Using the 0.145 ratio and the estimate of 159,334 S&P Futures contracts derived from a Dow/SPU ratio of 1:1, the number of NASDAQ contracts is 23,103 or 15.39% of the total 150,158 NASDAQ Futures contracts traded at TABFG.
Using the 0.145 ratio and the estimate of 191,794 S&P Futures contracts derived from a Dow/SPU ratio of 1:1.21, the number of NASDAQ contracts is 27,810 or 18.52% of the total.
Using the 0.145 ratio and the estimate of 293,971 S&P Futures contracts derived from a Dow/SPU ratio of 1:1.8, the number of NASDAQ contracts is 42,626 or 28.39% of the total.

(5) TABFG's Profits

171. TABFG's records kept track of how profitable its trading was by product, but did not break down its profitability by strategy. TABFG marked its trades to market at the end of the day. Marking to market is an accounting transaction in which trades are zeroed out by fictionally buying or selling them to

oneself at the end of the day and then fictionally selling or buying them back at the same price the next morning. 4/24/07 a.m. Tr. at 22-23, 28-29; Exhibit FP-26.

172. TABFG's total gross profits for its Dow Futures, S&P Futures, and NASDAQ Futures trading for the four and a half months for which it was in business were $3,513,758. Of that total, the gross profit for Dow Futures trades was only $85,562, but the gross profit for S&P Futures was $2,822,055 and for NASDAQ Futures trades was $729,259. In addition, TABFG suffered an overall loss of $123,118 in its trading of futures based on the Russell and Midcap indexes. 4/25/07 p.m. Tr. at 5; Ex. FP-30.

173. TABFG incurred trading expenses for the cost of trading on the Chicago Board of Trade and various electronic exchanges, as well as costs for data feeds and banking fees. TABFG's total trading expenses for the time it traded were $283,190.78. 4/25/07 p.m. Tr. at 5-7; Exhibit FP-24.

174. TABFG also incurred other non-trading expenses. These included $250,000 for its share of the legal fees incurred in filing this suit, seeking to void the restrictive covenants in Fishkin and Chernomzav's contract with SIG, and in defending against SIG's request for a preliminary injunction. 4/25/07 p.m. Tr. at 35-36.

175. TABFG also incurred expenses for $25,000 paid to Kent Spellman, who was both a TABFG employee and, along with Fishkin and Chernomzav, one of its owners, as well as $45,524.96 in salary paid to three trading clerks. 4/25/07 p.m. Tr. at 7-8; Exhibit FP-24.

176. TABFG also included as expenses a total of $406,371.89 in payments to a company called Alpha Trading, which is related to NT Prop. These payments to Alpha Trading were made in draws of $807.38 in July 2003, $2,691.25 in August 2003; and $210,828.75 in September 2003 and a "payout" and "fee" totaling $192,244 in October 2003. Alpha Trading is a firm that allowed TABFG to get a reduced rate on some of its trading fees. Fishkin testified that Alpha Trading was related to NT Prop and was run out of the same office. Larry Nocek, the principal owner of the NT Financial Group testified that Alpha Trading was not owned by anyone who had a financial interest in NT Financial Group or NT Prop and was an arms-length service provider, and that he did not know who owned it. He testified that the money paid to Alpha Trading was likely an "up charge" fee for getting TABFG a lower trading rate, as well as a payout for "one side of the trade" it made. 4/25/07 p.m. Tr. at 30-32; Ex. FP-24; 12/22/05 Dep. of Larry Nocek at 49-54.

177. A significant portion of TABFG's net profits were paid out to its principals and to its joint venturers. Cal

Fishkin and Igor Chernomzav were paid draws of $250,000 and $25,000, respectively. TABFG also received a draw of $138,350. NT Prop was paid a draw of $112,3102 in July 2003, with payments going to the Pfeil Fund, Larry Nocek and the NT Financial Group. Mr. Nocek and the NT Financial Group also received separate draws of $18,117.88 and $10,000.00. 4/25/07 p.m. Tr. at 14; FP-25.

178. After this Court issued its preliminary injunction on September 25, 2003, and enjoined TABFG from trading, TABFG made several large payments to the participants in the joint venture consisting of both the return of start-up payments and the disbursement of profits. Richard Pfeil received $2,000,000 that he had put up as "seed money," and companies owned by him received approximately $700,000 in distributions. NT Financial Group received a profit distribution of approximately $600,000. TABFG received a profit distribution of $290,000, of which $175,000 went to Fishkin and $115,000 to Chernomzav. Approximately $150,000 went to pay legal fees. 11/8/05 Dep. of Richard Pfeil at 35-37, 39-40, 41-42, 51-55, 61-63;[12] 10/11/05 Dep. of Igor Chernomzav at 28-29.

[12] NT Prop has objected to all SIG's designations of Pfeil's deposition between page 39, line 1 and page 63, line 6 as irrelevant. This objection is overruled.

III. Conclusions of Law

The claims remaining in this case and tried to the Court are SIG's counterclaims against Fishkin, Chernomzav, TABFG, and NT Prop for misappropriation of trade secrets, conversion, conspiracy and tortious interference with contract. The Court finds for the counterclaim defendants and against SIG as to SIG's claims for misappropriation, conversion and conspiracy, finding that SIG has failed to prove that the information at issue was a protected trade secret. The Court also finds against SIG on its claims for tortious interference against Fishkin, Chernomzav, and TABFG. The Court finds for SIG on its claims of tortious interference against NT Prop, but awards only nominal damages.

A. Misappropriation of Trade Secrets

SIG has alleged that Fishkin, Chernomzav, TABFG, and NT Prop misappropriated SIG's trade secrets in the Dow Fair value concept and formula and in the spreadsheet that contained the formula. It contends that the concept, the formula, and the spreadsheet are trade secrets both individually and as combined together as a method of trading. SIG also claims a trade secret in the knowledge that its method of trading Dow Futures was highly profitable.

All parties agree that Pennsylvania law governs SIG's misappropriation claims. Pennsylvania adopted the Uniform Trade

Secrets Act, 12 Pa. C.S.A. § 5301, et seq., in February 2004. The enacting legislation provided that the act "shall not apply" to misappropriation occurring before the act's effective date of April 19, 2004. 2004 Pa. Laws. 143 §§ 4-5. Because all of the acts at issue here occurred before 2004, the Uniform Trade Secrets Act does not apply and SIG's claims must be evaluated under Pennsylvania's common law, as it existed prior to the Uniform Act's passage. See Doeblers' Pa. Hybrids, Inc. v. Doebler, 442 F.3d 812, 829 n.20 (3d Cir. 2006).

Under Pennsylvania's common law, to prevail on a claim of misappropriation of trade secrets, a plaintiff must show:

> (1) that the information constitutes a trade secret; (2) that it was of value to the employer and important in the conduct of his business; (3) that by reason of discovery or ownership the employer had the right to the use and enjoyment of the secret; and (4) that the secret was communicated to the defendant while employed in a position of trust and confidence under such circumstances as to make it inequitable and unjust for him to disclose it to others, or to make use of it himself, to the prejudice of his employer.

Doeblers', 422 F.3d at 829 (citing SI Handling Sys., Inc. v. Heisley, 753 F.2d 1244, 1255 (3d Cir. 1985)); see also Felmlee v. Lockett, 351 A.2d 273, 277 (Pa. 1976). The counterclaim defendants argue that SIG has failed to prove the first element, that the information that they are accused of misappropriating is, in fact, a trade secret.

(1) The Definition of a Trade Secret

The threshold inquiry in a trade secret misappropriation claim under Pennsylvania law is whether the information at issue is a trade secret. Van Products Co. v. General Welding & Fabricating Co., 213 A.2d 769, 780 (Pa. 1965) (holding that the "starting point" in misappropriation cases is "whether, in fact, there is a trade secret to be appropriated"); see also Den-Tal-Ez, Inc. v. Siemens Capital Corp., 566 A.2d 1214, 1228 (Pa. Super. Ct. 1989) ("[T]he existence of a trade secret is a prerequisite" to a misappropriation claim.).

Prior to the passage of the Uniform Trade Secrets Act, Pennsylvania courts adopted the definition of a trade secret set out in comment b of section 757 of the Restatement of Torts: "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it." Felmlee v. Lockett, 351 A.2d 273, 277 (Pa. 1976) (quoting Rest. of Torts § 757 cmt. b (1939)).

To be a trade secret, information must not be generally known in the wider business community or capable of being easily derived from public information. Trade secrets "must be particular secrets of the complaining employer and not general secrets of the trade in which he is engaged." Capital Bakers v.

Townsend, 231 A.2d 292, 294 (Pa. 1967). As explained by comment b of the Restatement:

> Substantially, a trade secret is known only in the particular business in which it is used. It is not requisite that only the proprietor of the business know it. He may, without losing his protection, communicate it to employees involved in its use. He may likewise communicate it to others pledged to secrecy. Others may also know of it independently, as, for example, when they have discovered the process or formula by independent invention and are keeping it secret. Nevertheless, a substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring the information.

Restatement of Torts § 757 cmt. b.

A trade secret may be based on publicly available information if it consists of a secret advance over common knowledge and practice or if it combines publicly available information in a new and secret way. See SI Handling Sys. v. Heisley, 753 F.3d at 1256 ("A trade secret may be no more than a slight mechanical advance over common knowledge and practice in the art.") (quoting Anaconda Co. v. Metric Tool & Die Co., 485 F. Supp. 410, 422 (E.D.Pa. 1980)); see also Van Products, 213 A.2d at 778 n.16 ("[R]egardless of the fact that an article's individual components are part of the prior art or are ascertainable by inspection of sold articles, a secret may obtain in the composite or in the process of manufacture (providing, of course, that the process itself is a secret one)."

To determine whether particular information is a trade secret, courts applying Pennsylvania law have looked to several factors set out in the Restatement:

> (1) the extent to which the information is known outside of the owner's business; (2) the extent to which it is known by employees and others involved in the owner's business; (3) the extent of measures taken by the owner to guard the secrecy of the information; (4) the value of the information to the owner and to his competitors; (5) the amount of effort or money expended by the owner in developing the information; and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.

SI Handling Sys., 753 F.3d at 1256 (citing Rest. Torts § 757 cmt. b).

(2) The Dow Fair Value Concept, Formula, and Spreadsheet as Trade Secrets

Applying the definition of a trade secret set out in the Restatement and elaborated upon in Pennsylvania case law, the Court finds that the Dow Fair Value concept, formula, and spreadsheet were too widely known and too easily ascertainable to constitute protected trade secrets.

Of the six factors set out in comment b of the Restatement, two tend in favor of recognizing the Dow Fair Value concept and formula as trade secrets: the efforts SIG took to keep the information secret and the value of the information to SIG.

SIG never publicly revealed or published the Dow Fair Value concept and formula. SIG considered that information confidential and subject to contractual restrictions against disclosure that it included in its traders' employment contracts. The formula, itself, was not displayed on SIG's spreadsheet and, for at least some of the relevant time, the "fair value" derived from the formula was disguised with a "dummy" number on the spreadsheet. The Dow Fair Value concept and formula were also highly valuable to SIG, providing it with a competitive advantage over traders who did not use the concept. Findings ¶¶ 73-74, 76-77, 80, above.

These same factors do not weigh as heavily in finding the spreadsheet to be a trade secret. The spreadsheet was valuable to SIG because it allowed SIG's traders to calculate the result of the Dow Fair Value formula more quickly, giving them an advantage in being the first to bid or offer at a particular price. Findings ¶ 80, above. SIG did not take steps, however, to keep its use of the spreadsheet secret. The fact that SIG's traders used handheld computers in the pit was readily observable to other traders, as was the fact that they used these computers in making their bids. Findings ¶¶ 66, 84, above. Although SIG took steps to prevent other traders from seeing either the formula or the result calculated by the spreadsheet, the use of the computer spreadsheet itself was not a secret.

Three other factors in comment b weigh heavily against finding the Dow Future concept, formula or spreadsheet to be a trade secret: the extent to which the information was known outside of SIG; the amount of effort or money expended by SIG in developing the information; and the ease or difficulty with which the information could be properly acquired or duplicated by others.

The Dow Fair Value concept and formula were not unique to SIG and were known and used by other traders. At least 8-10 of the 150 traders in the Dow Futures pit used the same Dow Fair Value concept to make their trades as SIG did. These traders priced the Dow Futures off the S&P Futures based on the concept that the percentage by which the Dow Futures were trading over or under their banking fair value should be the same as the percentage by which the S&P Futures were trading over or under their banking fair value. Several of these traders used the concept before 1999, when SIG's employee Wisniewski first discovered it. At least five of these traders, and possibly more, used the same Dow Fair Value formula as SIG. Many of these traders also used handheld computers with spreadsheets to facilitate their trading in the Dow Futures pit. See Findings ¶¶ 82-85, above.

The Dow Fair Value concept, formula, and spreadsheet that SIG claims as its trade secrets were not created by SIG's

own independent efforts, but were developed by others and copied by SIG. Francis Wisniewski discovered the Dow Fair Value concept after he had been trading Dow Futures for a month. He did so by watching competing traders who were beating him on trades and observing how they traded. From these observations, he derived both the Dow Fair Value concept and a formula expressing this concept. Once Wisniewski had discovered the concept, it took him only a matter of minutes to express the concept algebraically in a formula. SIG's use of a handheld computer spreadsheet to calculate the formula was also an idea that originated with other traders. Wisniewski and Fishkin asked SIG for handheld computers after observing five to ten other traders using them. The spreadsheet itself was a publicly-available Microsoft Excel program. Findings ¶¶ 45-46, 66-67, 69, above.

Taking all these factors together, the Court finds that the Dow Fair Value concept, formula, and spreadsheet are too widely known and too readily ascertainable to constitute trade secrets. At most, they constitute "general secrets of the trade" and not SIG's "particular secrets," as required to be protected at common law as trade secrets. See Capital Bakers, 231 A.2d at 294.[13]

[13] SIG cites several treatises and cases from other jurisdictions for the proposition that information protected as a trade secret "need not be exclusive to the holder" and that a number of competitors can possess the same secret and each be able to protect it against those who have not yet discovered it.

(3) The Profitability of Dow Future Trading as a Protected Trade Secret

In addition to claiming that the Dow Fair Value concept, formula, and spreadsheet are trade secrets, SIG also contends that the fact that "substantial profit opportunities existed by using [SIG's] Dow futures trading strategy in the Dow trading pit" is also a protected trade secret. SIG contends that the high profitability of Fishkin and Wisniewski's Dow Futures trading was a closely held trade secret within SIG and that Fishkin misappropriated that secret when he disclosed enough information to representatives of NT Financial Group and Pfeil Commodity Fund, LLC to convince them to fund the joint venture with TABFG. SIG's Proposed Findings at ¶¶ 114, 127.

SIG's Proposed Findings at ¶ 117 (quoting Milgrim on Trade Secrets § 2.03[2][b] and citing E.I. Du Pont de Nemours & Co. v. U.S., 288 F.2d 904, 911 (Ct. Cl. 1961); Electro-Craft Corp. v. Controlled Motion, Inc., 332 N.W.2d 890, 900 (Minn. 1983); A.L. Labs Inc. v. Philips Roxanne, 803 F.2d 378, 381-82 (8th Cir. 1986); Bestechnologies, Inc. v. Trident Environmental Sys., Inc., 681 So. 2d 1175, 1176 (Fla. Dist. Ct. App. 1996). These decisions generally are referring to situations where competitors each independently discover a trade secret. See. e.g., Du Pont, 288 F.2d at 911 ("A plurality of individual discoverers may have protectible, wholly separate rights in the same trade secret."); Bestechnologies, 681 So. 2d at 1176 ("[T]he fact that several competitors each independently use a process that each has independently discovered would not necessarily mean this undisclosed information is no longer a trade secret."); cf. Restatement of Torts § 757 cmt. b ("Others may also know of [a trade secret] independently, as, for example, when they have discovered the process or formula by independent invention and are keeping it secret."). Here, SIG did not discover the Dow Fair Value concept, formula, or spreadsheet independently, but instead learned of them from observing its competitors.

Information about a firm's profitability can constitute a protected trade secret under certain circumstances. Courts applying Pennsylvania law have routinely found that a company's specific profit margins can be protected as trade secrets. See SI Handling Sys., 753 F.3d at 1260 ("data relating to materials, labor, overhead, and profit margin" may be a trade secret if not "readily obtainable by anyone in the industry"); Den-Tal-Ez, 566 A.2d at 1230 ("[I]nventory data and projections, detailed unit costs and product-by-product profit margin data may be protectible as trade secrets."). More general knowledge about profitability, however, cannot be protected as a trade secret. See Van Products, 213 A.2d at 776.

In Van Products, a manufacturer of drying machines sought to enjoin its former general manager who, shortly after being terminated, had joined a another company to produce and market a competing machine. The basis for the injunction was the employee's misappropriation of trade secrets, one of which was alleged to be "the intimate knowledge of the need, use and demand for deliquescent desiccant air driers; namely, that this was a 'hot product.'" Id. at 773. Reviewing the district court's grant of an injunction, the Pennsylvania Supreme Court reversed. The court rejected the manufacturer's specific claim that it had a trade secret in the knowledge of the "hotness" of its product line, finding that such knowledge could not be a trade secret

because it is "something that would be learned in any productive industry." Id. at 776.

Van Products forecloses SIG's argument that knowledge of the high profitability of its Dow Futures trading could constitute a trade secret. SIG is not claiming a trade secret in its specific profit margins for Dow Futures trading. Rather, it claims a trade secret in the general fact that its trading in Dow Futures was highly profitable. Like the "hot" demand for air dryers at issue in Van, this general knowledge that Dow Futures trading, or more particularly Dow Futures trading using a fair value approach, was highly profitable was readily obtainable by someone in the industry.

The fact that Fishkin and Wisniewski were making money for SIG was known to other traders, including John Zawalski, the trader who approached them on behalf of NT Financial Group. See Findings ¶¶ 102, 124, above. Similarly, the fact that other traders using the fair value approach were making significant profits was known to Wisniewski in 1999 when he began observing their trading and discovered their use of the Dow Fair Value concept. See Findings ¶ 45, above. Because the general profitability of SIG's Dow Futures trading could be readily ascertained, it cannot be a trade secret.[14]

[14] NT Prop also challenges SIG's misappropriation claim against it on the ground that SIG has failed to establish that any of SIG's claimed trade secrets were disclosed to NT Prop.

B. Conversion and Civil Conspiracy

Both SIG's claim for conversion and its claim for civil conspiracy depend on the existence of a trade secret. Having found that SIG has failed to prove the existence of a trade secret, the Court finds against SIG on these claims.

SIG concedes that its claim for conversion has "essentially the same elements" as its trade secret misappropriation claim. SIG's Proposed Findings at ¶ 130. To prove a claim for conversion of trade secrets, a plaintiff must prove that: (1) the plaintiff owns a trade secret; (2) the trade secret was communicated to the defendant within a confidential relationship; and (3) the defendant used the trade secret to the plaintiff's detriment. Schmidt, Long & Assoc., Inc. v. Aetna U.S. Healthcare, Inc., 2001 WL 856946 at *8 (E.D. Pa. July 26, 2001). Because, as found above, SIG has failed to prove that the information it claims to have been converted was a protected trade secret, SIG has not proved its claim for conversion.

NT Prop contends that neither Fishkin, Wisniewski, nor anyone else, ever disclosed to NT Prop or its representatives the details of the Dow Fair Value concept or formula or any other trading strategy used by SIG or TABFG, and that NT Prop cannot be liable for "misappropriat[ing] something it did not know." NT Proposed Findings of Fact and Conclusions of Law at ¶ 5. Having found that neither the Dow Fair Value formula or concept is a trade secret, the Court will not address NT Prop's argument.

For the same reason, SIG has also failed to prove its claims of conspiracy. SIG contends that the counterclaim defendants "combined to misappropriate and convert SIG's trade secrets" and that this conduct "constitutes civil conspiracy." SIG's Proposed Findings at ¶ 131. Having found against SIG on its misappropriation claim, the Court will also find against SIG on its claim for conspiracy.

C. Tortious Interference with Contract

(1) The Elements of the Claim

SIG contends that NT Prop and TABFG committed tortious interference with contract by inducing Fishkin and Chernomzav to breach their post-employment restrictive covenants with SIG. SIG also brings tortious interference claims against Fishkin and Chernomzav, alleging in its complaint that they each induced the other to breach his contract with SIG.[15]

[15] It is not clear whether SIG is pursuing its tortious interference claims against Fishkin and Chernomzav. Fishkin and Chernomzav were named as defendants to SIG's counterclaim for tortious interference, but SIG's Proposed Findings do not seek a judgment on this claim as to Fishkin and Chernomzav. See SIG's Proposed Findings of Fact at ¶¶ 145-146. SIG's Proposed Findings as to punitive damages for tortious interference, however, do mention Fishkin and Chernomzav, arguing "punitive damages are justified because of reckless indifference and to deter conduct of the type engaged in by Fishkin and Chernomzav." SIG's Proposed Findings of Fact at ¶ 147. Although SIG has arguably waived its tortious interference claims against Fishkin and Chernomzav by not including a judgment on these claims in its conclusions of law, the Court will nonetheless address these claims on the merits in its decision.

Pennsylvania has adopted section 766 of the Restatement (Second) of Torts which sets out the tort of intentional interference with an existing contract. Adler, Barish, Daniels, Levin & Creskoff v. Epstein, 393 A.2d 1175, 1183 (Pa. 1978). Section 766 provides that:

> One who intentionally and improperly interferes with the performance of a contract (except a contract to marry) between another and a third person by inducing or otherwise causing the third person not to perform the contract, is subject to liability to the other for the pecuniary loss resulting to the other from the third person's failure to perform the contract.

Rest (2d) Torts § 766. The elements of such a claim are (1) that there be an existing contractual relationship between the plaintiff and a third party; (2) that the defendant purposely or intentionally interfered with the performance of that contract by inducing a breach or otherwise causing the third party not to perform; (3) that the defendant was not privileged to act in this manner; and (4) that the plaintiff suffered pecuniary loss as a result of the breach of contract. Remick v. Manfredy, 238 F.3d 248, 263 (3d Cir. 2001) (citing Pelagatti v. Cohen, 536 A.2d 1337, 1343 (Pa. Super. Ct. 1987)).

(2) Breach of an Existing Contractual Relationship

There is no dispute that SIG has established the first element of its claim for tortious interference, the existence of

an existing contractual relationship. Fishkin and Chernomzav had provisions in their employment contracts with SIG that survived their terminations and prevented them from competing with SIG or associating with former SIG employees during the time that they traded for the joint venture. See Findings ¶ 113, above. Fishkin and Chernomzav breached the non-association clause of their employment contracts with SIG by forming TABFG together and, through it, entering into a joint venture with NT Prop for the purpose of trading Dow Futures. Fishkin breached the non-competition clause of his employment contract by trading Dow Futures (and by hedging those trades with S&P Futures and NASDAQ futures), which were all products that he had traded within three months of leaving SIG and which were therefore covered by his non-competition agreement.

(3) Inducement of the Breach by Fishkin, Chernomzav, and TABFG

The second element of SIG's claim for tortious interference with contract requires that Fishkin or Chernomzav's breaches be "induced" by the defendants' purposeful or intentional interference. SIG has failed to prove this element with respect to Fishkin, Chernomzav, and TABFG.

No evidence was presented at trial concerning how Chernomzav decided to join Fishkin in forming TABFG or what contacts Fishkin and Chernomzav had before TABFG was formed. The

Court therefore cannot find that either Chernomzav or Fishkin induced the other to breach his contract with SIG.

For similar reasons, the Court cannot find that TABFG induced Fishkin or Chernomzav to breach their contracts. TABFG is a limited liability company formed, owned, and managed by Fishkin and Chernomzav (with a minority stake owned by Kent Spellman). Because a company like TABFG can only act through its employees or managers, the claim that TABFG induced Fishkin and Chernomzav to breach their contracts is essentially that Fishkin and Chernomzav, acting through TABFG, induced themselves into breach. Imposing liability under such a theory is problematic because it is not clear that the defendant corporation can be said to have induced a breach by a third party under these circumstances. Cf. Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 769 (1984) (corporations and their employees cannot conspire together in violation of the Sherman Act because they are not separate economic actors).

The Court need not decide this issue, however, because the facts established at trial show that SIG has failed to prove that TABFG induced Fishkin and Chernomzav to breach their contracts. As discussed above, insufficient evidence was introduced at trial to show how or when Chernomzav decided to join with Fishkin to form TABFG and trade Dow Futures. On this record, the Court cannot say that TABFG induced Chernomzav to

breach his contract. As to Fishkin, the facts established at trial show that he was in discussions with members of what he called "NT" about trading Dow Futures with their backing for over three months before TABFG was formed in March 31, 2003. Findings ¶¶ 102-04, 107, 115, above. The reasonable inference from these facts is that TABFG did not induce Fishkin to breach his contracts with SIG, but instead that TABFG was formed in order to implement Fishkin's preexisting intention to form a competing trading venture with "NT."

(4) Inducement of the Breach by NT Prop

Although SIG did not prove the element of inducement with respect to defendants Fishkin, Chernomzav, and TABFG, SIG has proved this element with respect to NT Prop.

Representatives of NT Financial Group approached Fishkin while he was still under contract with SIG to discuss his interest in forming a group to trade Dow Futures. After Fishkin expressed interest in forming such a group, Fishkin had a series of further meetings involving representatives of both NT Financial Group and Pfeil Commodity Fund LLC, the two companies who would form NT Prop. At these meetings Fishkin told both Larry Nocek of NT Financial Group and William Anthony, lawyer for Richard Pfeil of Pfeil Commodity Fund, of the restrictive covenants in his contract. Despite this knowledge, NT Financial

Group and Pfeil Community Fund formed NT Prop with Nocek and Anthony as its managers and had NT Prop enter a joint venture agreement with Fishkin's company TABFG to have Fishkin trade Dow Futures. NT Prop funded that joint venture with $2,000,000 of seed money in return for half of the venture's profits. As part of the joint venture agreement, NT Prop agreed to fund a portion of any costs, including legal fees or payments to SIG "incurred by TABFG and/or its principals in connection with the termination of their previous employment relationship," including legal fees and possible payments to SIG. Findings ¶¶ 102-07, 109-112, 115-21, 139-41.

From these facts, the Court finds that NT Prop, knowing of Fishkin's continuing contractual obligations to SIG under the non-competition and non-association clauses of his employment contract, intentionally induced Fishkin to breach those obligations. NT Prop broached to Fishkin the subject of forming a competing trading group while he was still under contract with SIG. Despite learning of Fishkin's restrictive covenants, SIG nonetheless formed and funded a joint venture with Fishkin's company TABFG with the purpose of having Fishkin trade in violation of those covenants, while at the same time partially indemnifying him from any legal costs associated with that violation.

NT Prop's Proposed Findings of Fact and Conclusions of Law contain no discussion of SIG's tortious interference claims. In its motions for summary judgment on these claims, NT Prop argued that it could not be liable for tortious interference because NT Prop was only incorporated on April 11, 2003, after Fishkin and Chernomzav incorporated TABFG on March 31, 2003, and therefore after Fishkin and Chernomzav were induced into breaking their contracts. This argument is unpersuasive for two reasons.

First, even if NT Prop could not be held responsible for any actions that occurred before it was incorporated, it would still be responsible for the actions it took after its formation to induce Fishkin into breaching his covenants with SIG. After NT Prop was formed, it entered into the joint venture with TABFG, funded that joint venture with $2,000,000, and partially indemnified Fishkin and Chernomzav for costs arising from breaking their contracts with SIG. These actions induced Fishkin to begin trading Dow Futures in violation of his restrictive covenants.

Second, under Pennsylvania law, a company may become responsible for acts that occurred before it came into existence, if it subsequently ratifies those actions. Ratification can be "established from actions or from passive acquiescence of the directors if they had full knowledge of the facts." Blackwood Coal Co. v. Deister Concentrator Co., Inc., 626 F. Supp. 727, 729

(E.D. Pa. 1985) (citations and internal quotations omitted). Here, before NT Prop was incorporated, representatives of NT Prop's parent companies, NT Financial Group and Pfeil Community Fund, took actions to induce Fishkin to breach his restrictive covenants by discussing with him plans to form a group to trade Dow Futures. NT Prop ratified those prior actions when it agreed to form and fund a joint venture with Fishkin's company, TABFG, through which Fishkin would do this trading. This ratification was done with full knowledge of the relevant facts because, at the time NT Prop formed the joint venture, its managers, Nocek and Anthony, knew that Fishkin had restrictive covenants with SIG.

(5) Propriety of NT Prop's Actions

Having found that NT Prop, but not Fishkin, Chernomzav, or TABFG, intentionally induced a breach of contract, the Court must consider the third element of the tortious interference claim as to NT Prop: whether NT Prop acted improperly in inducing the breach.

This element of a tortious interference claim is variously described as whether the defendant was "privileged" to act as it did or, in an alternative formulation, whether the defendant's actions were improper. Compare Remick, 238 F.3d at 263 (discussing issue as the absence of privilege or

justification on the part of the defendant) and Restatement (First) of Torts § 766 (same) with Adler, 393 A.2d at 431-32 (discussing issue as whether defendant's actions were improper) and Restatement (Second) of Torts § 766 (same).

To determine whether a defendant's actions are privileged or proper, Pennsylvania courts look to the factors set out in section 767 of the Restatement (Second) of Torts:

> (a) the nature of the actor's conduct;
> (b) the actor's motive;
> (c) the interests of the other with which the actor's conduct interferes;
> (d) the interests sought to be advanced by the actor;
> (e) the social interests in protecting the freedom of action of the actor and the contractual interests of the other;
> (f) the proximity or remoteness of the actor's conduct to the interference; and
> (g) the relations between the parties.

Adler, 393 A.2d at 1184. The central inquiry is whether the defendant's interference is sanctioned by the "rules of the game" which society has adopted, looking at the propriety of the defendant's conduct as a whole. Kachmar v. SunGard Data Sys., Inc., 109 F.3d 173, 185 (3d Cir. 1997). Determining that an act was non-privileged or improper does not require a finding of ill will or an intent to harm, but only that the defendant interfered with a contract without justification. Ruffing v. 84 Lumber Co., 600 A.2d 545, 550 (Pa. Super. Ct. 1991).

Here, the Court finds NT Prop's actions were neither privileged or proper. NT Prop entered into a joint venture with

Fishkin and Chernomzav, knowing that the venture violated their non-competition agreements with their former employer, SIG. It did so for the purpose of profiting from the same method of trading that Fishkin had been using at SIG, which was the exact harm the non-competition agreements were designed to prevent.

(6) Pecuniary Loss to SIG

The final element for a tortious interference claim is whether the plaintiff suffered a pecuniary loss as a result of the breach of contract that the defendant induced. The Court has found that during the time that Fishkin was trading at TABFG in breach of the non-competition clauses in his contract, TABFG made and profited from Dow Futures trades that otherwise would have been made by SIG. Findings ¶ 153, above. SIG therefore suffered a pecuniary loss from Fishkin's breach of contract.

(7) Damages for NT Prop's Tortious Interference

Having found that SIG has proved the elements of its claim for tortious interference with contract against NT Prop, the Court must determine damages for the claim. In its Proposed Findings of Fact and Conclusions of Law, SIG concedes it cannot prove the extent to which it lost profits as a result of Fishkin's breach of contract and asks for nominal damages.

When a plaintiff's claim for tortious interference alleges no injury other than pecuniary losses resulting from the employee's breach, under Pennsylvania law, "the measure of damages for interference with contractual relations will be identical to that for breach of contract." American Air Filter, Inc. v. McNichol, 527 F.2d 1297, 1300 (3d Cir. 1975). In its prior ruling on the defendants' motions for summary judgment, the Court found that SIG's damages for Fishkin and Chernomzav's breach of their restrictive covenants could only be measured by the profits that SIG lost as a result of Fishkin and Chernomzav's competition and not by the profits that Fishkin and Chernomzav made from the breach or the restitution value of the training that SIG gave Fishkin and Chernomzav. Fishkin v. Susquehanna Partners, G.P., 2007 WL 560703 at *2-*8 (February 12, 2007); see also Air Filter, 527 F.2d at 1299 (damages for breach of a non-competition agreement are "the profits [the plaintiff] would have made on sales it could reasonably expect to have secured had [the defendant] not sold in breach of the agreement"). The Court adopts the reasoning of its prior opinion here.

SIG's damages for NT Prop's tortious interference with contract are therefore the damages caused by Fishkin and Chernomzav's breach of their restrictive covenants, which are measured by the profits that SIG lost as a result of the breach. SIG has conceded that it cannot establish the amount of profit it

lost as a result of Fishkin and Chernomzav's competition and instead seeks nominal damages on its tortious interference claim. SIG's Proposed Findings at ¶ 146.

It is unclear whether nominal damages are available for claims of tortious interference under Pennsylvania law. The Court raised this issue in its prior decision on summary judgment but did not decide it. Fishkin, 2007 WL 560703 at *8 n.6. The Court has found no decision discussing the availability of nominal damages for tortious interference claims under Pennsylvania law and no decision awarding such damages.

The Court nonetheless will award nominal damages on SIG's claim for tortious interference against NT Prop. Under Air Filter, the measure of damages for a tortious interference claim is the same as the measure of damages for the underlying breach. Pennsylvania law allows nominal damages for a breach of contract claim. Scobell, Inc. v. Schade, 688 A.2d 715, 719 (Pa. Super. Ct. 1997) ("any breach of contract entitles the injured party at least to nominal damages"). The Court therefore believes Pennsylvania law would similarly allow nominal damages for a claim of tortious interference with contract, at least under circumstances like those here. An award of nominal damages is also permissible here because none of the defendants has challenged the availability of such damages.

The Court will therefore award SIG nominal damages in the amount of $1.00 on its tortious interference claim against NT Prop.

D. Punitive Damages

SIG has asked for an award of punitive damages on its claims of misappropriation of trade secrets and tortious interference with contract. SIG asks the Court to determine liability for punitive damages on the trial record, and if the Court awards such damages, to allow further proceedings into the net worth of the defendants before determining the amount. SIG's Proposed Findings at ¶¶ 142-43, 147. Having found NT Prop liable to SIG on its claim of tortious interference, the Court must consider whether punitive damages are appropriate.

Although the Court has awarded SIG only nominal damages on its tortious interference claim against NT Prop, punitive damages are still available on the claim. Under Pennsylvania law, punitive damages may be awarded even when the plaintiff cannot recover compensatory damages. Kirkbride v. Lisbon Contractors, Inc., 555 A.2d 800, 802-03 (Pa. 1989)

Under Pennsylvania law, punitive damages may be awarded because of the defendant's outrageous conduct, his evil motive, or his reckless indifference to the rights of others. Feld v. Merriam, 485 A.2d 742, 748-49 (Pa. 1984) (citing Restatement

(Second) of Torts § 908(2)). Punitive damages are penal in nature and so "are proper only in cases where the defendant's actions are so outrageous as to demonstrate willful, wanton or reckless conduct." Hutchison v. Luddy, 870 A.2d 766, 770 (Pa. 2005). In assessing punitive damages, the state of mind of the actor is "vital" and the defendant's act or failure to act must be "intentional, reckless, or malicious." Feld, 485 A.2d at 748.

The Court finds that, measured against this standard, NT Prop's actions here are not sufficiently outrageous, evil, or reckless to justify an award of punitive damages. The Court has found that NT Prop, knowing that Fishkin and Chernomzav were subject to non-competition provisions in their contracts with SIG, induced Fishkin and Chernomzav to breach those provisions by forming a joint venture with their company, TABFG, to trade Dow Futures. NT Prop did this in order to profit from TABFG's trading. No evidence was presented, however, that NT Prop intended to harm SIG in forming the joint venture. NT Prop's actions were wrongful and, as found above, subject it to liability for tortious interference with contract, but they do rise to the level that would warrant punitive damages.

An appropriate Order follows.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

CAL FISHKIN, et al.,	:	CIVIL ACTION
v.	:	
SUSQUEHANNA PARTNERS, G.P., et al.,	:	
v.	:	
TABFG, LLC, et al.,	:	NO. 03-3766

ORDER

AND NOW, this 17th day of June, 2008, following a bench trial held on April 23, 24, 25, and 26, 2007, and upon consideration of the parties' Proposed Findings of Fact and Conclusions of Law, and after oral argument held July 19, 2007, IT IS HEREBY ORDERED, for the reasons set forth in a Memorandum and Order of this date, that judgment is entered on defendant and counterclaim plaintiff Susquehanna International Group LLP's counterclaims against plaintiffs and counterclaim defendants Cal Fishkin and Igor Chernomzav and counterclaim defendants TABFG, LLC and NT Prop. Trading, LLC, as follows:

1) Judgment is entered against Susquehanna International Group LLP and in favor of Fishkin, Chernomzav, TABFG, LLC, and NT Prop. Trading, LLC on Susquehanna International Group LLP's counterclaims for misappropriation of trade secrets, conversion, and conspiracy.

2) Judgment is entered against Susquehanna International Group LLP and in favor of Fishkin, Chernomzav, and TABFG, LLC on Susquehanna International Group LLP's counterclaims for tortious interference with contract.

3) Judgment is entered in favor of Susquehanna International Group LLP and against NT Prop. Trading, LLC on Susquehanna International Group LLP's counterclaim for tortious interference with contract in the amount of nominal damages of $1.00. No punitive damages are awarded on this claim.

BY THE COURT:

/s/ Mary A. McLaughlin
MARY A. McLAUGHLIN, J.